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SMUT AND ITS PREVENTIVES.

As we have had several letters detailing instances of great injury to the wheat crop from SMUT, and as numerous inquiries, from different quarters, have been made of us in regard to preventives, we copy the following from Sir *John Sinclair's Code of Agriculture:*

"ON THE NATURE OF THE DISEASE CALLED "THE SMUT" IN WHEAT, AND THE MEANS OF PREVENTING IT."

This disease in French is called "*Le Carie*," and in botanical language, "*Ustilago.*" It is a species of degeneracy of the grains in the ears of wheat, by which the substance which should form flour in the grain, becomes entirely changed into a black powder, similar to a puff ball, or dusty mushroom, (*lycoperdon globosom.*) Wheat affected with this disease, when mixed with seed in a sound state, diminishes its value, imparts a dark colour to the flour, and is said by some to possess noxious qualities. The disease has a great tendency to spread and contaminate all the adjoining grain, rapidly extending the mischief. No wonder, therefore, that its ravages should have commanded the attention of husbandmen, in all ages, and in almost every country. It was formerly so common, that in some countries it was not unusual, to see twice or thrice as many smutted ears of corn [wheat] as sound ones. Fortunately the means of preventing it have long been in the power of every farmer; for any operation that completely frees the seed from smutty powder (the source of the infection), or that destroys it by acrid, corrosive, or poisonous applications, will have the effect of securing a clean crop, and though crops may sometimes escape without preparation, that is no reason why every rational means should not be adopted, to guard against such an evil."

"As a safeguard, it is an excellent practice, before the wheat seed is first put into any liquid, to run it, *very gently*, through a riddle, when not only the smut balls, but the imperfect grains, and the seeds of weeds, will float and may be skimmed off at pleasure, which is not the case when the seed is put hastily into the brine of water."

"Numerous are the modes by which smut may be prevented; as

1. By pure cold water and lime; 2. By boiling water and lime; 3. By water impregnated with salt; 4. By urine pickle; 5. By a variety of other processes."

"1. PURE WATER AND LIME.

So important an operation, as the preparation of seed wheat, ought not to be performed in a slovenly manner, if the object be, to secure with certainty, the future crop, from so destructive a disease as smut. It may be effected, however, by pure cold water, provided the seed be washed in several waters, frequently stirred, so as to give the light grains an opportunity of rising, that they may be skimmed off, and repeatedly changed, until it be perfectly clean. It should then be dried by *quick-lime*, slaked either with sea, or with boiling water."

"2. BOILING WATER AND LIME.

This mixture, when *properly applied*, is found to be effectual. Sometimes chalk-lime, recently burnt, is put into a copper of boiling water, and as soon as the lime is dissolved, the mixture, at this degree of heat, is poured upon the wheat, previously spread upon a stone floor, and the wheat and mixture are immediately well turned together with shovels. Sometimes the wheat, put into a common wicker-basket, is dipped two or three times in a mixture of hot water and quick-lime; and sometimes boiling water and quick-lime have been successfully used, after the seed has been well washed and skimmed.

"3. SALT WATER.

It is a *still more effectual practice* to make use of either fresh water, so impregnated with salt, *that an egg will float in it*, or of sea water, with such a quantity of salt dissolved in it, as to be equally strong, by which its specific gravity will be so increased, that all unsound grains will swim in the pickle. About a bushel of wheat at a time is put into a sufficient quantity of this pickle, in which when stirred, all the light or diseased grains will rise to the top, and may be skimmed off. The seed wheat is then separated from the pickle, spread upon the floor, and a sufficient quantity of *new slaked lime*, to dry the whole, sifted upon it. If the wheat is to be drilled, after being limed, it should lie a day on the floor, or be kept for that space of time in sacks."

"4. URINE PICKLE.

Some farmers are satisfied with merely sprinkling a heap of seed with *stale urine*, and then drying it with lime; and there can be no doubt, that by this mode of pickling, *if carefully done*, the object may

be effectually answered. Others prefer steeping the seed in pure water, (skimming off any light grains that may float on the surface), and then applying the urine to the seed. The grain thus first imbibes a harmless species of moisture, and the more acrid matter to be afterwards applied, only acts upon its surface, where the source of the evil is deposited. This is attended with some additional trouble, but is an excellent precaution, by which any risk of injury, from the after application of the urine, is prevented, should the grain not be immediately sown, which, however, is desirable.—After the wheat has been pickled with urine, and dried with *quicklime*, if not immediately used, it ought to be spread as thin as possible upon a stone floor to become dry. If it be put close together, and lie in that state for a day, not a grain will vegetate."

"Various other steeps and practices have been recommended, as *Soap-boiler's ley,—ley of wood ashes,—lime water,—a solution of arsenic,—powdered wormwood in stale urine*,—and *kiln-drying* the seed, which, though a hazardous, is when properly executed, a successful method of preventing smut.

In every preparation it is necessary, either to kill, or mechanically to force off, the semina of the smut.

Blue Vitriol Steep.

The most effectual steep, for destroying the seeds of the smut that are attached to wheat, was discovered several years ago by Mr. *Benedict Prevost*, and strongly recommended to the attention of the author of this work, by that intelligent naturalist, *as an infallible remedy*. Instead of brine, urine, or any of the ingredients that have been mentioned above, Mr. Prevost uses vitriol, (the sulphate of copper), in the following process. The steep or preparation is made up at the rate of *one ounce* of blue vitriol, dissolved in a gallon of water, for every bushel of wheat. Into this mixture the grain is thrown, or passed through a sieve, and being frequently stirred for about half an hour, and the grain which swims on the surface skimmed off, that which has sunk in the liquid is thrown into a basket that the water may run off. It is next washed in rain or pure water, so as to prevent injury to the grain, and the seed is dried, either with or without lime, and then sown. The grain should be well cleaned, and thoroughly dry at the time it is put into the liquid. The grain, after being thus prepared, may be kept without injury, and the remedy, *when properly used*, may be considered "to be infallible."

Besides the preceding steeps enumerated by Sir *John Sinclair*, there are various others which have been highly recommended, as for instance, the *Solution of Potash—Solution of the Muriate of Potash,—Solution of the Nitrate of Potash*, (Saltpetre), *Solution of Soda, Sulphate of Soda*, (*Glauber Salts*), *Solution of the Muriate of Ammonia*, and *Solution of Soot*.

Of a number of experiments tried of various steeps and processes, Mr. *Bevan*, a highly intelligent English farmer, gives the preference to Lime water. Mr. *Johnson*, the compiler of the *Farmers' Encyclopædia*, thus describes

Mr. Bevan's Process.

"The experiments of Mr. Bevan indicate that lime-water is the most effective of these preparations; and if this be adopted, it may be prepared by mixing 1 pound of fresh lime with 3 gallons of *boiling water*, and the clear liquor then to be poured off and immediately used. In this liquor the wheat should be soaked for 12 hours, stirred twice or thrice during the time, and then mixed upon a floor, with the powder made by pouring 3 gallons of boiling water upon 4 pounds of lime."

In giving the above remedy, Mr. Johnson remarks:—

"I have had no experience of the effects of lime water as a preventive of the smut; but with *stale urine*, and a *solution of common salt*, I have witnessed numerous and extensive experiments. The results without exception, were favorable, and nearly similar; and this being the case, a preference is to be given to common salt, as being decidedly the most cleanly and the least disgusting. The mode which I have observed to be the most effective, is to wash the seed with pure water, pouring this off with all the floating grains, and then allowing the seed to soak for 12 hours in a solution of common salt, having a strength or specific gravity sufficient to float a hen's egg. I have no doubt that lime, like common salt, is effectual against the disease, by reason of its powerful action upon the texture of the fungus tribe. Every housekeeper knows how completely mushrooms dissolve away when sprinkled with salt; and in experiments I have made upon the *Urego segetum*, I found that the effect of common salt is not less remarkable."

It will have been seen that both Sir *John Sinclair* and Professor *Johnson*, give the preference to the solution of *Common Salt*, and so do we, but then, the solution must be strong—strong enough to float an egg, and the *Lime* with which the seed is dried and coated, must be *quick-lime*, that is, lime just slaked. There is every thing in the way an experiment is conducted; and equally important to success, is it, that all the seed sown in the same field, should be carried through the steeping and drying processes with care, as a single acre sown with unprepared smutty seed, would be sufficient to infect a hundred acres of grain, as every wind would blow millions of the parasitic seed throughout its entire extent.

We had some heads of smutty wheat sent us lately, and discovered the *bugs* to which our correspondent alluded as being the *cause* of the smut in his wheat,—now, in our poor judgment, those bugs are harmless of the offence charged upon them—they are the *effect, not* the *cause*—the diseased condition of the wheat attracted them, it being congenial to the tastes of most insects to luxuriate in corruption.—*Editor of the American Farmer.*

☞A communication from Gen. T. Tilghman, of Talbot, on the above subject, was received too late for this No.

Death of an Editor.—Among the passengers who perished by the burning of the ill-fated Henry Clay steamer, on the Hudson River, was the editor of the Horticulturist, A. J. Downing, Esq. The loss of this gentleman will be irreparable. "Respected for his superior talents, admired for the genial spirit which pervaded all his writings, and loved for his social virtues, all who have known him will feel deeply this afflictive dispensation of Providence."

Seckle Pears.—We are indebted to Robt. Pollard, jr. esq. of King & Queen Co. Va. for a box of most delicious Seckle Pears. He will accept our thanks.

HOW CROPS EXHAUST LAND.

We have been exceedingly interested in the second volume of the "Agriculture of New York," by Prof. *Emmons*—being in the series of the natural history of the state. It is a source of regret that these volumes, especially those on Agriculture, could not have a more extended circulation. For then ample justice would be done to one who has toiled for years comparatively unknown. To Prof. Emmons the Agriculturist will ever owe a large debt for the patience and perseverance which has enabled him to put forth two such valuable volumes. They are monuments of his labors of which he may well be proud.

Every crop takes certain substances from the soil wherein they grow; and, if continued from year to year, will exhaust the soil of these particular substances, unless artificially returned. Those who have not been familiar with the labors of the chemist, will be surprised when they are told the amount of saline matter which they take off from an acre in one good crop of potatoes. Prof. Emmons states it as follows:

	In one ton of tubers.	Removal from an acre.
Potash	8.50	42.00 lbs.
Soda	3.00	15.00 "
Lime	1.00	5.00 "
Magnesia	1.61	8.95 "
Phos. of Lime and Magnesia	3.57	17.85 "
Sulphuric Acid	1.40	8.50 "
Chlorine	0.21	1.05 "
Silica	0.51	2.55 "
	20.00	100.00

He supposes an acre to yield five tons. No allowance is made in the above for the tops or vines, as they are supposed to be left upon the land. The analysis is only of the tuber.

Now let us see what use can be made of this important fact. You see, that for every hundred pounds of potatoes you eat, you have eaten up one pound of the elements which make your soil fertile. You have borrowed, and now you must pay. We can get the potash back pretty cheap, for seven bushels of good wood ashes will do it. A bushel of common salt will supply the soda and chlorine, and some to spare; another bushel of plaster, or as some call it, gypsum, (properly, though, it is sulphate of lime,) will supply the lime and the sulphuric acid. A bushel of bone dust will give the phosphates abundantly; half a bushel of common air-slacked lime will also furnish the magnesia,* and the silica or sand is not likely to be exhausted very rapidly. You must therefore make a compost of these, ten and a half bushels for every acre of potatoes you plant, and apply it to the land, or what is better, mix it with your manure pile so that it may be evenly spread. 100 lbs. of potatoes contain about 77 lbs. of water. How much of it gets out of a good baked potato the Professor does not state.

Let us take Barley next. In some sections of the wheat regions of this State, barley is a very common crop before winter wheat. A heavy clover ley is turned under in the fall, and the grain sown in spring and put in by means of the cultivator. As the crop comes off early, the ground is not stirred until wanted for the wheat. It is then plowed and cultivated, some cross plow, and the wheat sown and stocked to clover the following spring. Good crops are the result, generally.

Now let us see how much of the elements are taken off from an acre, allowing it to yield 30 bushels. Professor Emmons gives the following table for the grain:

	LBS.
Silica	12.855
Phosphates	31.148
Potash	6.498
Soda	2.948
Total	53.449

About 28½ oz. to the bushel.

In a ton of straw and chaff:

	LBS.
Silica	78.401
Phosphates	11.929
Lime	.090
Potash	11.959
Soda	3.340
Sulphuric Acid	6.420
Total	112.169

The whole amount removed from an acre would be not far from 160 lbs., supposing the straw and chaff equal to the grain. A small portion of these elements are returned by the stubble. The crop is not a very exhausting one, and it would not be difficult to maintain the land in a position to bear crops annually. One-half of the mineral is silica—a substance abundant in most soils—indeed in all

Note by the Editor of the American Farmer.

*This is but partially correct. There are numerous formations of lime stone, that do not contain even traces of magnesia; while there are others that contain very large per-centages of that mineral. But those who have *ashes*, and have no means of procuring magnesian lime,—and there are large districts of country where it cannot be had—have, in ashes, a reliable resource, as in every hundred pounds of it there are five pounds of magnesia, so that from 2 to 3 bushels of unslaked *hardwood ashes* would furnish all the magnesia required by the wants of an acre of potatoes. A less quantity of unslaked *pine-wood* ashes, or *coal* ashes, would answer for this purpose, as they are richer in magnesia than are the ashes made from hardwood.—We believe that two bushels of either pine, or coal ashes, would supply the requisite quantity of magnesia for an acre in potatoes. We are here speaking of a supply for a single crop. But as in every effort to improve soils—in every application of manures to supply the abstractions of crops—the cultivator should look beyond the horizon of a single year, moderately increased applications would be found more politic; hence then, where the melioration were desired to last for a series of years, and the gradual improvement of the land aimed at, an application of 5 or 10, or 12 or 15 bushels of ashes, per acre, would be desirable; not with the single view of furnishing any particular one of the inorganic elements which enter into the constitution of plants, but to supply all; for wood ashes, which may have been preserved from the effects of the weather, and not slaked, contains every kind of mineral food consumed by every cultivable plant that grows; and we do hold it as of a truth, that the presence of *all* are essential to ensure luxuriant growth, and generous products.—*Editor Amer. Far*

that would grow barley. One bushel of bone dust if properly distributed would supply the quantity of phosphates taken off. Three bushels of wood ashes, one of salt, and one of sulphate of lime, would abundantly supply the soda, potash and sulphuric acid—not a very expensive outlay, surely.

Next, Wheat. Mineral matter of an acre:

	LBS.
Grain	43.5
Straw	120.4
Chaff	57.6

Removed from an acre in the grain:

	LBS.	OZ.
Silica	1	6.6
Phosphates	19	6.0
Lime	3	9.2
Magnesia	4	3.3
Potash	17	13.8
Soda	1	8.8

Removed from an acre in straw and chaff:

	LBS.	OZ.
Silica	119	6.8
Phosphates	12	8.7
Sulphuric acid	9	5.2
Lime	7	14.4
Magnesia	5	13.0
Peroxide of iron	2	11.8
Potash	17	13.6
Soda	9	8.6
	177	
In grain	43	
Total	220	

Of this, 120 lbs. are Silica. The other 100 lbs. could be supplied at small cost, even at double the quantity taken off.

We have now given a number of *guide-boards* pointing from the barn-yard to the field—facts that if properly attended to will greatly enrich the careful farmer, for they show him how and when to dig for gold on his own farm.—*Wool Grower.*

SOAKS FOR SEED.

An article which appeared in our May number, page 396, Vol. 7, giving a very interesting experiment made by an enterprising farmer of Caroline County, in this State, in soaking seed *corn* in a solution of the Sulphate of Ammonia, having attracted considerable notice, and our opinion being often asked upon the subject, we take pleasure in giving it, and we shall do so with that candor that becomes our position.

The beneficial effects of *soaks* upon seed, are two-fold. 1st. They soften their exterior hard integument, and moisten their entire mass, thereby hastening the period of germination. 2dly. If the soak has been judiciously chosen, as in the case of our correspondent, the plant after it has risen above the earth, derives sufficient nourishment from even the small quantity it may have imbibed, to impart to it an impetus, and vigor, which is of direct and salutary benefit for a limited period. It is thus encouraged to push forward its rootlets, in the surrounding soil, in search of food, and to develope its leaves above ground, to absorb the fertilizing gases of the air. And every observing farmer knows, how important it is to plants to have a healthful start at the commencement of their career. Crops that come up vigorously, unless retarded by a concurrence of untoward atmospheric difficulties, if there be food in the ground, to continue their auspicious beginning, are very apt to reward the husbandman's toil by prolific yields.

We think highly of soaking seeds; but our ideas of the benefits to flow from them, have never extended beyond the early growth of the plants; for we cannot conceive that the minute quantity of nutriment absorbed by the seed while in the soak, can exert a prolonged action upon the growth of the plant, much less continue it up to the time of maturation. Soaks, we apprehend, cannot be depended upon to supply the place of manures; and, therefore, should merely be used as adjuncts thereto; and in this connection, we know of no soak more likely to operate beneficially than the one used by the gentleman in question, to wit:—the Sulphate of Ammonia—a salt easily soluble, and furnishing nutritive food of the most wholesome kind, as far as the imbibition may proceed while the seed may be in the soak.

If we were asked, whether it is necessary that the Sulphate of Ammonia should be *pure?* Our answer would be, no; that the commercial article is sufficiently so for all practical purposes; that 1 lb. of the substance as sold in the shops, dissolved in 3 gallons of water, would be sufficiently potent as a soak; and that a very good substitute may be found, by stirring a half gallon of plaster into 5 gallons of Urine, and after permitting it to remain a day or two, diluting that quantity with 15 gallons of water. The seed, after remaining a few hours in the soak, say from 6 to 12, should be drained, and dried with plaster. That such a soak would be promotive of good, in urging the plants above ground, and contributing to their early growth, we have not the slightest doubt. But notwithstanding any incipient benefit thus to accrue, our belief is, that it is necessary that the soil itself should have within its body other food than that which is to be found in any soak that may be selected, or the plants will not be able to develope, in fulness, their productive capacities. Soaks are excellent in their places—are excellent, so far as their specific offices may be concerned; but he, who may look for a large crop from their influence *alone*, we think, will be disappointed. A pound of guano, dissolved in 10 gallons of water, would also make an efficient soak, and would be the better of having a quarter of a pound of plaster mixed with it; the seed, as in the case of the urine soak, to be drained, and mixed with plaster.

Report on the Crops of Maryland.—At the meeting of the Md. State Society, held on the 4th Feb. last, a resolution was adopted, and a committee for each county appointed under it, to "examine and report their estimate of the gathered and growing crops, at the annual meeting of the Society." We would remind the gentlemen thus appointed of the importance of the subject, with the hope that a due consideration will be given to it, and a full report made at the annual meeting. The proceedings of the society, and the names of the committees, will be found in the March No. of the "Farmer," for 1852, page 313.

Silk Worm Eggs.—F. Fuselier, St. Martinsville P. O. La. would be much obliged to any one having silk worm eggs, to forward him a few by mail. We hope this little favor will be granted by those having it in their power to accommodate him.

WORK FOR THE MONTH.

SEPTEMBER.

As every month brings with it its own peculiar labors, we shall endeavor to point out such as should be attended to this month

On the Farm.

Culture of WHEAT.—As *wheat* is one of the great staples of our Agricultural productions, it is but proper that we should call particular attention to its culture, in all its particulars. In presenting the views we are about to offer, we desire no one to take what we may say as a rule, but merely for whatever it may be worth. If the reasoning by which any opinion we may advance has common sense to sustain it—and that is the best kind of sense—then it may be well to place a proper appreciation upon it—if not, its rejection should, as a necessary consequence, follow; for the crude and undigested notions of no one should be adopted as a rule of government for others. We shall with this brief preface, commence with

THE SOIL.

It is generally admitted, that clayey loams,—soils possessing in their composition a just admixture of clay, sand, and vegetable and animal remains—are best adapted to the growth of wheat; though wheat will grow in most soils with a due proportion of clay in them, to give firmness to their texture, wherein exists the organic and inorganic food requisite to build up the wheat plant,—and in this connection, regard must be had as well to its *straw*, as to its *berry;* for unless the materials be present to build up the former without stint, the elaborations of the latter, will be but indifferently carried on. The wheat grown on an acre of land will require to feed it the following quantities of *inorganic* substances, to say nothing of the *organic* or nutritive ones, and without the latter be present in the soil, the wheat plant can never thrive and mature its grain:

Inorganic matter abstracted from the soil by a crop of wheat:

	Grain.	*Straw.*
Potash	3.3	0.6
Soda	3.5	0.9
Lime	1.5	7.2
Magnesia	1.5	1.0
Alumina	0.4	2.7
Silica	6.0	86.0
Sulphuric acid	0.8	1.0
Phosphoric acid	0.6	5.0
Chlorine	0.1	0.9
	17.7	105.3
		17.7
		123.0 lbs.

The above substances, in the quantities named, it should be recollected, are found to exist in the ashes of the straw and grain of wheat grown on an acre of land; the *organic* parts having been driven off by the effects of the fire, by which the grain and straw were reduced to ashes. The aggregate of these quantities are, by no means, alarmingly great, being only 123 lbs. in 25 bushels of wheat and the straw on which it was grown—nay, it is comparatively small, but small as it may be, it is necessary that *every* substance named should be present in any soil from which it is expected to grow a remunerative crop of wheat. To supply all these, *ten* bushels of ashes—nay, *five*, would be more than sufficient, with the exception of the *silica*, and that the ashes would create, by dissolving the sand of the soil, by the agency of the potash, the lime and the soda, which ashes contain, by forming the silica of the soil into a silicate, the form in which it is taken up by the roots of the plants. In *ten* bushels of hardwood *unleached* ashes, there are about 55 lbs. of potash—in *five* bushels 27½ lbs., and whether we use the one quantity, or the other, there will be found potash enough present, to persuade the sand of the soil into the silicate state. Independently, however, of the *inorganic* materials to be found in the quantities of *unleached* ashes named, all nutritive manures, whether of the barn, or stable yards, or compost heaps, when judiciously made, and properly cared for, besides the organic, contains the inorganic food of plants, also, to a greater or less extent.

We have been speaking thus far of the elements which enter into a single crop of wheat, but, as in manuring, the progressive improvement of the soil should be looked to, as the cardinal point of every farmer's system, the agriculturist should provide a supply for a full rotation, whether that be three, four, or six years. But we will here endeavor to impress this truth—a truth in which we most honestly and conscientiously believe—upon our agricultural friends—*ten bushels of unleached hard wood ashes* will, *directly*, and *indirectly*, provide the inorganic food of plants throughout an entire rotation. This declaration is made without regard to *wastage* by the ordinary processes of leaching, percolation, &c., to which all substances in the soil are more or less exposed, and should be provided against, as it is a poor economy that does not take in contingent, as well as the inevitable losses arising from the abstractions of the crops themselves. Now, we are aware, that ashes, comparatively speaking, are to be obtained in limited quantities anywhere, but then, as the quantities needed by single crops, are really very small, and as every farmer and planter makes more or less, all that is made, should be saved under cover; for, however small the quantity may be, upon *practice*, it may be found sufficient, as an *assistant* of nature—sufficient, at least, for a single crop—so that by yearly repetitions, the inconvenience of limited supply may be obviated.

Though what is termed *clayey loams*, are considered the best adapted to the wheat culture, we have seen very good, aye, large crops of wheat grown on *stiff clays*, and *sandy loams;* but to ensure such crops, in such soils, care must be observed in providing them with the materials for forming *mould*, as, to mould is referrible, to a very great extent, the capacity of every soil to avail itself of the riches of the atmosphere, and it is now very generally conceded, that from this source all plants derive at least a moiety of their organic food. In proportion, then, as we increase, to a healthful extent, the supply of mould in a soil, so do we enhance its productive capacities. How this mould is to be supplied, or kept up in the soil, becomes a matter of moment, and we will here remark, that the object can be attained, by the cultivation of clover, and grasses, by the growing of green crops and turning them in—by the formation and application of composts, or by an economical accumulation and preservation of stable and barn-yard manures.

Value of Lime to Wheat Soils.

In this country, as well as in Europe, all intelli-

gent, correct thinking farmers, concur in opinion, that lime is indispensable to every wheat soil. As to the *quantity* to be applied, there is a difference of opinion; but so far as our poor judgment may be worth anything, our belief is, that it is not so much to the *quantity*, as to the *presence*, of lime in the soil, that the farmer and wheat grower should look. Soils of great fertility—of great productive capacity—have been found to contain from less than ½ of 1 per cent., to 9 per cent. to the acre, estimating the depth of soil at 6 inches—the first would give about 150 bushels of the carbonate of lime to the acre, the latter rate, 2700 bushels; but then, these soils had *all the other* elements, *organic*, as well as *inorganic*, in them, in corresponding quantities, so that a just equilibrium was kept up, and every variety of food present, in which plants delight. These facts, if properly considered, will teach us the impressive truth,—that it is the *presence* of *all* the constituent elements, more than to the *quantity* of any particular one, which give to soils their productive powers, and if we desire to profit by the only rational deduction to be drawn from it, we must come to the conclusion, that it is not necessary to apply very large doses of lime to any soil, as every one may be presumed to have more or less, naturally, in it. The lime naturally existing therein, is, of course, in the carbonate or mild form, and the addition of freshly slaked lime, periodically, say at intervals of each rotation, will prove of infinite benefit, by infusing into the soil an active and efficient *leaven*, to prepare and utilize the inert vegetable matters of the soil, for the use of the crops. For this purpose, 10 or 12 bushels per acre, at the commencement of each rotation, would be an ample quantity to supply all the demands of the crops, and allow for wastage from every cause. Of the value of lime to the growth of the wheat crop, experiments in England, of the most striking character, have been made. Lands known to be rich in every other element but lime—which produced almost every other crop in perfection and abundance, have refused to yield crops of wheat; *but, after applications of lime*, they produced wheat in large quantities, and of excellent quality. Cases of this kind are not isolated ones, but are of so frequent occurrence as to prove that the presence of lime in a soil, is indispensable to its full fertility.

We have, for years and years, endeavored to correct the error of large applications of lime, because we looked upon such applications as involving unnecessary expenditures of capital, and consequent loss of interest,—and we would here ask the agricultural reader to bear this truth in mind. The actual consumption of lime by crops in a four years' rotation, does not exceed 3 bushels; allowance is, however, to be made for losses arising from other causes, as sinking into the subsoil, as well as drainage; but even with these drawbacks, we believe, that by the application of the quantities we have named, at the beginning of each rotation, the absolutely necessary quantity of lime may be kept up in the soil; nay, that, by such doses, a moderate addition to such supply will be the result of the practice.

Kinds of Lime.

Oyster shell lime, in our opinion, is best, but *stone lime*, or marl, of any kind, are good; and so far as the quantities which we believe necessary, may be concerned, *magnesian lime* would not operate otherwise than for good. If applied at the commencement of each rotation, more than 10 or 12 bushels should not be applied. If the dose of lime to be applied, is intended to last for a comparatively long series of years, we would graduate our *doses* thus:—for *sandy land*, 20 bushels per acre—for *clay loams*, or *sandy loams*, rich in vegetable and animal substances, 25, 30 or 40 bushels per acre,—for *strong* clays, rich in the remains just enumerated, 50 bushels per acre: In applying *marl*, we would double the quantities, and invariably compost it with woods'-mould, leaves, marsh mud, or any kindred substance.

Preparation of Lime.

Lime, we would slake with a strong salt brine, and apply it as soon as it fell into powder; by sowing it over the land, and harrowing it in. Lime should, as much as possible, be kept near the surface; so that, by each succeeding rain, portions of it may be decomposed, sink, and become diffused throughout the entire body of the soil, as its contact, its presence, with the vegetable and animal matters in the soil, is necessary to ensure its decomposing action.

In connection with the use of lime, or any other alkaline manure, we will state, as the firm conviction of our judgment and experience, that all lands thus treated, should, in the course of a rotation, be seeded to clover and grass, to resupply the material for forming *mould*, abstracted by the crops grown. If this precaution be not observed, lime may prove a robber, rather than an improver of the soil. Lime must be provided with the materials to work up into manure—into food—organic, as well as inorganic—for the plants—the conversion of raw material into the food of plants, being one of its most beneficent offices.

Preparation of the Soil.

After spreading the nutritive manure, be that what it may,—except bone-dust, which should be only harrowed in—the land should be ploughed full 8 inches deep, and, if time and force were at command, should be subsoiled 6 or 8 inches more; provided the land be not wet; that done, the land should be harrowed and rolled, until a perfectly fine tilth were obtained; rolling, to be the last process, whether the wheat be drilled in, or sowed broadcast; for we do hold these to be agricultural truths, which will last till the "Old Catoctin shall tremble from its base, and the Sugar Loaf totter to a fall,"—that all grounds in which wheat, or, indeed, any other crop, may be grown, should undergo the most thorough pulverization before the seed is committed to it—that the ploughing should be performed with accuracy and truthfulness—no slighting—no balks left unploughed,—and that the harrowing, and rolling, should be perfect and complete, as no tender germ of a plant can healthfully find its way through indurated clods of earth, and prosper afterwards.

Value of Clover to the growth of Wheat, &c.

As an opinion has been recently put forth, in a late Agricultural Address, adverse to the benefits derivable from clover, as an improver of the soil, we shall copy from our "*Thoughts on the Culture of Wheat*," as published in Vol. vii., July, 1851, page 7, for the benefit of our numerous new subscribers, as well as the old ones. By the extract which follows, the importance of clover, generally, as a meliorator of the soil, and especially as being adapted to the culture of wheat, will be made too manifest, to need any additional comments from us.

"We shall, therefore, now present the views of

Dr. *Daniel Lee*, upon a subject which comes directly home "to the bosoms and business of us all."—It is an extract from a paper from his able pen, which originally appeared in his journal, "*The Genesee Farmer*," on p. 56, vol. 7, and was republished in the May number, for 1851. It is an extract from one of a series of able articles "on the culture of wheat, showing from his own chemical researches, the intimate relation that subsists between clover and this important cereal."

We give this on two accounts,—*first*, because it contains most important facts and information,—and, *secondly*, because Dr. Lee is one of the most accurate analytical chemists in the country."

He says,—

"There are 7.7 lbs. of ash in 100 lbs. of dry clover. If this crop be taken from a field for a number of years, without making restitution, it will be found quite exhausting, notwithstanding the power of clover to draw its organic nourishment from the atmosphere. An acre of stout clover, when perfectly dry, has been known to weigh 3694 lbs. containing 284 lbs. of ash. This is some 80 lbs. more than is removed from an acre in a fair crop of wheat. It is useful to study the mineral elements of this plant in connection with those of wheat. In 284 lbs. of the ash of Clover there are of

Phosphoric acid	18.00 lbs.
Sulphuric acid	7.00 "
Chlorine	7.00 "
Lime	70.00 "
Magnesia	18.00 "
Potash and Soda	77.00 "
Silica	15.00 "
Oxide of Iron and Alumina	00.90 "
Carbonic acid	71.00 "
	283.90 lbs.

"Throwing out of the account the 71 lbs. of carbonic acid, we have 213 lbs. of earthy matter. An acre of *wheat* needs, to form both seed and straw, 17 lbs. of Phosphoric acid. An acre of good clover will furnish 18 lbs. That quantity of wheat needs 2 lbs. of Sulphuric acid. An acre of clover will supply 7 lbs. The former needs 1 lb. of chlorine—a substance that forms 60 per cent. in common salt. Clover will furnish 7 lbs. Wheat (an acre) needs 16 lbs. of lime. Clover will supply 70 lbs. Wheat needs 13 lbs. of magnesia. Clover will supply 18 lbs. Wheat needs 24 lbs. of Potash and Soda; (and an excess). Clover will furnish 77 lbs. Wheat needs 121 lbs. of Silica; of which clover can furnish only 15 lbs. Except Silica, or sand, it will be seen that an acre of good clover yields all the several minerals needed by a crop of wheat; and some of the most valuable ones, in large excess. In its *organic* elements, the supply is not less abundant.

	Carbon.	*Oxygen.*	*Hydrogen.*	*Nitrogen.*
Clover has in 3693 lbs.,	1750	1396	185	78
Wheat crop,	1487	1262	171	39

"It is particularly worthy of note, that clover yields more than twice as much *nitrogen* as both the wheat and straw require. It is proper to state, that to make 3693 lbs. of perfectly dry clover, one must have 4675 lbs. of common clover hay. But in ploughing in clover for wheat, we gain all the stubble and roots, in addition to what the scythe clips in mowing."

The preceding facts, brought out through the analytical skill and research of Dr. Lee, are highly important, and entitle him to the profoundest gratitude of the Agricultural community.

In speaking of the *inorganic* requirements needed by a crop of wheat, Mr. *Prideaux*, an English chemist and author, of good repute, estimates that they can all be supplied to the soil, for an *acre of wheat* to be grown thereon, by an application of

60 lbs. of Pearl ashes,
40 " of Salt,
80 " of Bone-dust,
40 " of Sulphuric acid, and
50 " of Magnesia.

He states that the following quantities of *inorganic* matters are abstracted from an acre of soil by a crop of wheat of 25 bushels of grain, and 3000 lbs. of straw:

	By the grain. lbs.	By the straw. lbs.	Total. lbs.
"Potash	7.15	22.44	29.59
Soda	2.73	0.29	3.02
Magnesia	3.63	6.89	10.52
Phosphoric acid	15.02	5.54	20.56
Sulphuric acid	0.07	10.49	10.56
Chlorine	0.00	1.97	1.97."

But it will be perceived, that he has omitted in his *tabular statement* a most important substance, to wit, *Lime*, which we have shewn, upon the reliable authority of Dr. Lee, amounts to 16 lbs. in an acre of wheat, the which omission, in the *formula* given below, we shall attempt to supply. It may be said, that in Mr. Prideaux's formula, he provides the lime, in the bone-dust. True, there is lime in bone-dust, but, as in matters of manuring, nothing should be hazarded to the slow process of decomposition, which can only be carried on actively under a favorable condition of the season, and as we are desirous of simplifying our recipe, we will prescribe the following for a dressing for an acre of land to be put in wheat, as affording the inorganic food required by the plants:

12 bushels of unslaked hardwood ashes,
2 bushels of salt—(that of the packers as good as any,)
2 bushels of bone-dust, to be dissolved in Sulphuric acid, and
¼ a bushel of plaster.

In the 12 bushels of ashes there would be found some three bushels of lime, in a state equally as well adapted to all the purposes of vegetable wants, as would be any other kind of lime, whether burned from shells or limestone, saving the one or two per cent. of phosphate, which are found in shell lime, and that would be found in ample quantity in the bone-dust, besides the quantity existing in the ashes.

If, however, the Wheat-grower were desirous of extending the inorganic manuring of his land, to the subsequent crops of a rotation of 4 or 6 years, he could secure his object, by applying the following substances to each acre of his land, to be seeded to wheat, to be formed into compost, layer and layer about, and permitted to remain in bulk two or three weeks before being used:

25 bushels of unslaked hardwood ashes,
2 bushels of salt,*
30 bushels of woods'-mould, or marsh mud,

*The refuse salt of meat or fish packers, would answer just as well as the most costly kind—it can be obtained for 10 or 12 cents a bushel. All salt applied to land should be ground. In saying that the *packers'* salt could be obtained for 10 or 12 cents, we spoke from the current price last year; we however learned some days since from a farmer of Carroll county, of this State, who had bought that day, that he had to pay 15 cents per bushel.

2 bushels of bone-dust, to be dissolved in dilute sulphuric acid, say 66 lbs. sulphuric acid, mixed with 16 gallons of water, and

1 bushel of plaster.

Before being used, the whole to be shoveled over and well mixed together.

If the preceding opinions are correct, as to the substances, and quantities, necessary to keep up the inorganic integrity of the soil, as the expense is not great, there can be no apology for any land-owner, who suffers his land to become exhausted, for the increased production in a single year, would more than cover all the cost of the articles last named, which are intended for a 4 years rotation, even though the expense of 200 lbs. of guano, per acre, were added to the cost.

Though we have not named lime in the formulas we have given, as we have before observed, we have provided for it in the ashes, as that substance contains at least 25 per cent. of lime in its volume; so that in applying ashes to our land, we, in fact, apply lime also; and as an acre of wheat only requires about 16 lbs. of lime for its grain and straw, the quantity of lime to be found in the quantity of ashes we have named, will be found more than ample, though it may appear infinitisimal to those who have been used to applying a hundred bushels to an acre, and whose minds are so wedded, by their practice, to heavy doses, as not to be able to see any virtue in a less quantity. But be this as it may, we feel certain, that the quantities we have named, are ample for the purposes we have in view; we are equally certain, that a great deal too much money has been expended in liming lands, and that there is no immediate necessity; nor are there any benefit to be derived within half a century, from applying more bushels of lime per acre than from 20 to 50; the precise quantity to be applied, to be determined by the character of the land, light sands requiring less than loams, and clays. Now if 20, 30, 40 or 50 bushels of lime will answer just as well for all the purposes of improvement, as 100, why should a farmer incur the heavy outlay for the latter quantity? Such outlays are opposed to all our ideas of true economy.

As to Manures, generally

There is so much of *dandyism*—if we may apply the phrase in this connection—in the dogmas propounded by the learned professors, as to what constitutes the most essential substances in the food of plants—*organic*, as well as *inorganic*—that plain matter of fact men, who consult reason and common sense more than fancy—and we profess to be of this order, are often placed in sad dilemmas, to determine what does constitute the food of plants. One learned professor will very gravely tell us, if we supply the inorganic elements found in plants, to the soil, that the *air* will supply the organic constituents. But fortunately this fanciful theory has received its quietus, through a series of well conducted experiments. All the mineral or inorganic substances found in the ashes of plants, were nicely compounded, and as nicely applied to the soil; wheat was sown, and the atmosphere called upon to furnish the requisite quantum of *organic* food; but unfortunately for the beauty of this beautiful theory, spirits might as well have been called from the vasty deep; for the atmosphere would not obey the call; and, as a consequence, there was a diminution, instead of an increase of production. The fact is, that without nutritive manures of some kind—without putrescent manures,—without animal manures, be given to the soil, or it has naturally in it, a sufficient body of animal and vegetable remains—or in other words—mould, it can neither attract nor retain the fertilizing gases of the atmosphere—for without these substances be in the soil, its absorbent and retentive powers are, comparatively speaking, inactive—inoperative—and the soil does not possess the capacity to attract, condense, and appropriate, the enriching substances which float through the air.

The reader will have perceived, that we go in for both mineral and putrescent or nutritive manures, and the justness and propriety of our belief, will be evident to any one who reflects, that in the ratio of ninety-seven parts out of the hundred, every plant that is grown consists of *organic* substances, less the water they may contain, and it is equally evident, that these substances cannot be supplied by the application of mineral manures alone, unless the soil be rich in those remains, which, by decomposition, will supply the materials for forming organic food, or in other words, such as will furnish *carbon*, *oxygen*, *hydrogen*, and *nitrogen*. If the suggested remains be present in the soil, by the action of lime, potash, soda, &c., the desired decomposition will be superinduced, and the necessary supply of organic food provided.

Preparation and application of Guano.

Before we proceed to give a *list* of such manures as we believe will, the season and concurring circumstances being favorable, ensure a good crop of wheat, and enable the grower to seed his wheat field to clover, or grass, next spring, or to both, we will briefly state how, in our opinion, *guano* should be prepared for sowing, and how it should be applied.

In the first place, the guano should be *sifted* through a riddle, so as to separate the fine from the lumpy portion of it. The lumps should be moistened with a strong brine made of salt and water, and after remaining a few hours, the lumps should be pulverized, either with a mallet, or the back of a shovel, and then, in proportion of 100 lbs. of guano to a peck of plaster and half a bushel of salt, (the latter to be made fine), should be intimately mixed together, sown broadcast, carefully, so as to ensure an equal distribution of the allotted quantity of guano per acre, and ploughed in as soon after being sown as possible.

By moistening the guano with salt brine, an immediate union between the muriatic acid of the salt and the already formed ammonia of the guano takes place, and thus an involatile or fixed salt—the muriate of ammonia—is formed, so that no loss from the escape of the ammonia occurs, and hence one of the most important constituents of the guano is preserved for feeding the crop—is thus preserved from all possible impairment of its value until turned in; where, by uniting in the soil with the muriatic acid of the salt, and the sulphuric acid of the plaster, with which it is mixed, its most active principle is kept in reserve, to supply the roots of the plants with the elements of nitrogen, as their necessities may require. Again, the offensive odor of the guano being, by the salt brine, arrested, it is rendered pleasant to the hands to sow.

We have added salt, in addition to plaster, to be mixed with guano, because salt, being much more soluble than plaster, will act with more promptness—with more *immediate* efficiency; it requiring

from 400 to 500 parts of water to dissolve plaster and set free its sulphuric acid, whereas, three times its weight of water will dissolve salt, and liberate its muriatic acid. Until these acids are freed they cannot act upon the carbonate of ammonia, and, by union, give it fixidity; hence, from the greater solubility of salt, it is the more to be relied upon for immediate action, though, the conservative effect of plaster, will be longer continued, from the greater quantity of water it takes to decompose it, and the consequent increased tardiness of the liberation of the sulphuric acid from the lime.

Soils and Manures applicable thereto.

1. *Clover-leys, grass-swards*, and land rich in organic remains, we would treat to from 150 to 200 lbs. of Guano, prepared in the way we have directed, and then to be ploughed in.

2. To *thin exhausted lands*, we would give from 200 to 300 lbs. of guano, mixed with 5 double-horse cart loads of mould, marsh or river mud, per acre, intimately mixed with 1 peck of plaster and half a bushel of salt, which mixture after being thoroughly shoveled over, we would plough in, harrow the ground and then top dress with 5 bushels of ashes per acre.

3. If stable or barn-yard manure be applied, to every twenty double-horse cart loads of it, we would add 1 bushel of plaster and 2 bushels of salt, layer and layer about, shovel it over and mix it well, and give to each acre 10 loads of the compost, plough it in, and roll.

4. Five bushels of bone-dust, dissolved in dilute sulphuric acid, mixed with 10 bushels of ashes, to be harrowed in with the seed wheat, will be found sufficient to produce a good crop of wheat, and place the land in a condition to be seeded to clover.

5. Five bushels of bones, dissolved with dilute sulphuric acid, mixed with 5 bushels of ashes, 1 bushel of plaster, 1 double-horse cart load of loam, or river mud, and 3 gallons of fish oil, will make an efficient dressing for an acre in wheat, and bear seeding to clover. It should be harrowed in.

6. Ten loads of river mud mixed with 5 loads of stable or barn-yard manure, 1 bushel of plaster and 2 bushels of salt, well mixed together will bring an excellent crop of wheat on an acre, and bear seeding to clover—to be ploughed in.

7. Ten double-horse cart loads of river, marsh mud, or woods-mould and leaves, mixed with 1 bushel of plaster and 10 bushels of ashes, per acre, will ensure a good crop of wheat, and clover afterwards. It should remain in bulk two or three weeks, then be shoveled over, applied to the land and ploughed in.

8. Ten bushels of marsh or river muck, mixed with 10 bushels of ashes, and 5 bushels of bone-dust, will make an excellent dressing for an acre in wheat. It should be formed into pie and remain in bulk for 7 or 10 days, then be shoveled over, spread, and the ground harrowed.

9. Ten double-horse cart loads of river mud or muck, mixed, layer and layer about, with 100 lbs. of guano, and 1 peck of plaster, would be an admirable dressing for an acre of wheat—to be ploughed in.

10. Ten loads of woods-mould, 100 lbs. of guano, 5 bushels of ashes, 2 bushels of salt and half a bushel of plaster, would make as good a dressing for an acre of wheat as could be desired. It should be well mixed together, and lay in bulk two weeks before being used; then to be ploughed in.

11. Ten bushels of ashes, 300 lbs. of Chandlers greaves—the greaves to be shaved down—1 bushel of plaster and 5 bushels of fine charcoal, mixed with 2 double horse cart loads of marsh or river mud, would make a dressing for an acre of land, to be put in wheat, that cannot well be surpassed—to be ploughed in.

12. Ten double-horse cart loads of marsh mud, woods-mould, river mud, or any kindred matter, saturated with 200 gallons of Urine, in which 1 bushel of plaster had been stirred, would be a dressing for an acre, of exceeding great value. To be ploughed in.

We have not the slightest doubt but that the latter compost would produce just as good a crop of wheat as would 200 lbs. of guano. And why should it not? To say nothing of the quantity and kinds of the food of plants to be found in marsh-mud, woods'-mould, or river mud—and they are each rich in such elements—every gallon of human urine contains the elements of 8 pounds of wheat, besides possessing the capacity of converting substances in the soil, theretofore unavailable, into the food of plants. This power of decomposition and convertibility, it derives as well from the sal-ammoniac, as from the potash, soda, urate of ammonia, and urea, which it contains; we say urea, for the latter may be considered as so much *ammonia*, as it ultimately assumes that form of salts, and becomes just as active in furnishing nitrogen to plants—just as active in its office as a converter, as are the ammonia, and its elements, found in guano. But then, the unthinking farmer, asks, perhaps,—how is this urine to be obtained? And we answer, by being saved. A healthy adult will excrete 1000 lbs. and an ox 4000 lbs. in a year, and either of these quantities, if saved, as they ought to be, and are properly kept—if mixed with plaster—and any of the substances we have named, as bases, will produce of

Sal-ammoniac	.459
Sulphate of potash	2.112
Muriate of potash	3.674
Common Salt	5.060
Phosphate of Soda	4.267
Bone-dust	.209
Acetate of Soda	2.770
Urate of Ammonia	.298
Urea	23.640
	42.409 lbs.

of salts, all of which are essential elements in the constitution of plants.

Let us now take a comparative view of different kinds of urine.

In every 100 lbs.

Of Cattle Urine,	there are	4.00	lbs.	of Urea.
Of Horse Urine,	"	.70	"	"
Of Human Urine,	"	2.36	"	"
Of Sheep Urine,	"	2.80	"	"
Of Hog Urine,	"	5.64	"	"

And we wish again to impress this fact upon the reader,—*every pound of Urea, should be considered as so much ammonia;* for it is ultimately resolved into it. And it may, without exaggeration, very safely be assumed as a fact, that the liquid discharges of a man or an ox, in a year, mixed with an earthy body, if saved, and properly kept, would manure more than an acre of land, so as to give it the highest powers of production.

Preparation of the Seed.

Upon this subject we refer the reader to the ar-

ticle in another part of this month's journal to be found under the head of, "*Smut and its preventives,*" and will content ourselves here with the remark, that our faith in the Salt soak is unshaken—the salt solution, however, must be strong, the lime freshly slaked, the process carefully conducted, and the entire quantity of seed to be sown, undergo the soaking and liming operation.

Selection of Seed.

Care must be taken to get the best seed, location and soil to be regarded as to its adaptation. The seed should be *hardy*, *prolific*, and of an *early* variety, and gotten out with a *flail*, as the operation of thrashing machines destroys the vegetative powers of a large per centage of the grains of wheat subjected to its influence.

Methods of Seeding.

If the land has been well prepared, by deep ploughing, thorough harrowing, and rolling, we should prefer *drilling* in the seed.

For enlightened views upon this subject see July number of present volume, page 5, as also page 76, Vol. 6. But if the soil be not thoroughly pulverized, broadcast seeding must be adopted. Before sowing seed upon such land, the roller should be passed over it.

Time of Seeding.

With regard to the *time* of seeding wheat, it is futile to attempt to prescribe any particular day, as what would suit one location, would not suit another; and, again, some varieties of wheat bear earlier seeding than others; but then, we think it may be affirmed as a safe rule, regard being had to circumstances, that the seeding should be done between the 1st of *September* and 10th of *October;* and that, where opportunity and convenience permits, it would be best to get the seeding completed by the 1st of October. We believe that, in a majority of cases, early seeding succeeds best; notwithstanding it may subject it to two attacks of the Hessian fly, instead of one, as it would be, if it were later sown. Early sowing has this advantage; the plants have thereby afforded them, an opportunity of imbedding their roots more deeply and firmly in the soil, and thus the better prepared to resist winter-killing, or of having their roots thrown out in the spring, through the effects of alternate freezings and thawings. After all it may be said, that this latter evil is best provided against by thorough and deep ploughing, thorough pulverization, rolling, and draining; especially is this latter process necessary, in soils where much moisture—where a superabundance of water—abounds.

Depth of Covering the Seed.

From very accurate experiments which have been made, it is pretty well ascertained, that a greater proportion of seed come up when buried to the depth of two inches, than at any other; and, taking the difficulty of graduating depth throughout a field, we believe the safe plan would be for the wheat-grower, to so make his calculations and arrangements, that the seed be not covered less than 2 nor more than 3 inches. With the *drill* the *depth* is within his control. If covered by a *seed-plough* with wheels attached, he may also exert a tolerably exact influence over the depth of covering. If the *wheat* be put in with the *harrow*, by regarding the length of the teeth, the same object may be attained. But we apprehend that, the success of apportioning the depth of covering the seed, in any event, will much depend upon the manner in which the soil may have been prepared for their reception.

Quantity of Seed per acre.

If the wheat be put in *broadcast*, less than *two* bushels should not be seeded,—if drilled in, 5 pecks per acre will be about the right quantity.

Water-furrowing.

Every field of wheat should be well provided with water-furrows to carry off the water, as there is nothing more detrimental to the wheat plant, than an excess of wet in winter and early spring. Care must be observed in making these furrows, that they are adapted to the object in view. After being formed, the roller should be passed crosswise over them, and care be observed, to remove every clod, or stick, from them, from time to time, during winter and early spring, that could impede the free passage of the water, in times of rain.

Spring Management of Wheat Fields.

So soon in early spring as the frost is out of the ground, and the soil has become sufficiently firm, not to be injured by the tread of a horse, pass a light one-horse harrow over your wheat-field; then sow your clover seed, 12 lbs. to the acre, or 12 lbs. of clover seed, and 2 bushels of orchard grass seed, per acre, each separately, and roll the clover, or clover and grass seed in. By rolling, the seed will be sufficiently buried to ensure prompt and certain germination, whilst any wheat plants that may have been dragged out of the earth by the harrow, will be restored by the roller: the rolling will, also, press the joints of the plants into the soil, and greatly promote their power of tillering.

If the processes of harrowing and rolling, should be thought to involve too much time and labor, no wheat-grower should omit the rolling process.

Cleansing Granaries.

Before stowing away your present year's crop of grain, you should thoroughly cleanse your *granary*, to guard against the weevil and other depredating insects. This may be done in several ways. We will detail two. The Hon. *Wm. Carmichael*, of Queen Ann's county, Md., an enlightened, painstaking, successful farmer, thus describes the plan pursued by him. He says:—

"*The Black Weevil* haunts our granaries, where they are generated. Some years ago I suffered much injury from them, but have now an *effectual defence.* When my granaries are clear of grain, I place powdered brimstone in an earthen pan, which, for safety, I put on the floor in a bed of sand, closing doors and windows, and fire it. The smoke either destroys them, or drives them off."

The *second method*, is this:—In the first place, sweep the ceiling and side-walls of your granary, then sweep the floor, take up the dust and dirt carefully, and *burn it.* Do not sweep it out of doors to breed millions of insects to damage your next year's crop. This done, wash the ceiling, side walls, and floor, with strong ley, and then complete your cleansing, by whitewashing the entire interior of your granary, ceiling, walls and floor.

Destruction of rats.

This is a very necessary thing before one stores away his crops. It may be attained, by giving the rats for a few successive nights, messes of *fresh fish.* When you find they have carried these off readily, sprinkle arsenic over the fish, and you will

not be troubled with rats for many months again. The fish should be previously scaled.

SOWING RYE.

If you did not get in your Rye last month—which you ought to have done—get it in as early this month as possible; not forgetting to give the land on which it is cultivated, a dressing of nutritive manures; say, five double-horse cart loads so the acre—if more cannot be spared—and a top-dressing of ashes, of from 3 to 5 bushels. The Rye crop is generally allotted to the poorest sandy field on the place, wherein there is but little food out of which the grain can be formed; and then, because it yields but few bushels to the acre, complaints are put forth that its yield is small. Now how can it produce grain when the material for making it, is, comparatively speaking, not in the soil, when though plenty of sand be there, there is no mould to yield food from the earth, or to attract it from the atmosphere?

A good Compost for Rye.

If every acre put in Rye were previously dressed with a compost, composed in the proportion of 2 double-horse cart loads of stable or barn-yard manure, 6 double-horse cart loads of marsh or river mud, 2 bushels of ashes, 1 bushel of bone-dust, and 1 bushel of plaster, layer and layer about; to be suffered to remain three weeks in bulk, then to be shoveled over, and five loads of the compost spread on each acre, and ploughed in, harrowed and rolled, prior to seeding the rye; which should be harrowed, and cross harrowed in, and the ground rolled with a heavy roller—we say if land put in Rye should be thus treated, there would be fewer complants justly preferred, of its not yielding a good crop of *grain*.

Quantity of Seed per acre.

When not seeded in August, no one should think of seeding less than 6 pecks per acre.

Management of the Seed.

The seed should be steeped in a soak the same as Wheat, as it is just as subject to the smut as that grain. For a proper steep, the culturist may select any one in the article headed,—"*Smut, and its preventives,*" in this number, or he may give the seed three or four washings in pure water, then soak it in a decoction of horse dung tea, and dry it in quick lime, ashes, soot, or plaster, whichever may be most convenient.

ORCHARDS.

If your orchard has not been manured for some years give it a dressing of the compost we shall prescribe, plough it in a few inches deep, say 3 or 4, and harrow and roll the ground.

If you have not treated the trunks of your fruit trees to a dressing, as soon as you have ploughed in the compost, as advised, scrape the bark of such of your trees as have rough bark, then, with a paint or whitewash brush give each one a painting of the soap mixture, made as follows:—With every gallon of *soft soap* mix 1 lb. of the flour of sulphur, and 1 quart of fine salt; stir the whole well together.

In ploughing in the compost, harrowing and rolling the ground, *see* that the hand employed in these labors, does not go near enough to the trees to injure them. The ground immediately around the trees, should be carefully dug up with a spade so as not to injure the roots.

Compost for an Orchard.

For every acre give 5 double-horse cart loads of a compost made as follows:

2 loads of rotted dung,
6 loads of woods'-mould, marsh mud, or river mud,
2 bushels of bone-dust,
5 bushels of Ashes,
1 bushel of Plaster, and
2 bushels of Salt.

The whole to be formed into compost, layer and layer about, and remain in bulk three weeks, then to be shoveled over, applied to the land, and turned under, as before suggested.

GRASS-SWARDS INTENDED FOR CORN NEXT SPRING.

If you have a field in grass, that you intend to put in corn next spring, harrow it, and spread thereon 12 bushels of lime, freshly *slaked* with salt brine, to every acre, and you will find the good effects of the lime in the corn crop. To render the lime more efficient, it would be well to harrow it in, and then roll. If stiff land, you should plough it up late this fall, and give it a top-dressing, consisting of 2 bushels of lime, 2 of salt, and 2 of ashes, with the view of destroying the grub worm and others of that tribe.

MEADOWS.

Top dress these with 2 bushels of bone-dust, 5 bushels of ashes, and 2 bushels of salt, per acre, harrow the land, and roll. If your meadow is giving out, after dressing and rolling the land, sow grass seed and roll. This treatment will greatly increase your next year's crop of grass, should the season be good.

MIXTURE FOR STOCK.

Mix equal parts of oyster shell lime, in a mild state, with salt and sifted ashes, and give to each head of stock an ounce twice or thrice a week.

SHEEP.

These should be regularly salted twice or thrice a week. If you were to keep rock salt where they could always resort to it, the sheep would save you the trouble of salting them. The mixture above advised for stock, generally, will answer for sheep.

SETTING OUT ORCHARDS.

Those who have no orchards on their estates, or whose trees are old and dilapidated, should set out new orchards, and be sure to plant none but the most superior kinds. Such fruit always have brought, and always will bring, good prices. An acre in the best kinds of apples will yield more profit than will 3 or 4 acres in wheat, corn or tobacco. And it may be here proper to remark, that the demand for superior fruits is on the increase.

In buying trees to set an *orchard, every farmer and planter should repudiate the idea of buying from tree-pedlars*—they being a race of beings that cannot be depended upon: Nurseries of established reputations, conducted by honest men—responsible men—are alone to be relied upon; and should they deceive you, you have your recourse at law.

CELLARS.

Have these cleaned out, whitewashed, and strewed with lime, or plaster—we think the latter best.

OUT-HOUSES.

If not recently done, these should be cleaned out and whitewashed.

CATTLE YARDS AND PIG YARDS.

Bed these with rough materials, and strew plaster over them—repeat the sowing of plaster weekly.

Fences.

Examine and repair these.

Materials for Composts.

Seize every opportunity for collecting the rough materials for composting. *One* load of stable or barn-yard dung, will convert 2 loads of peat, marsh mud, or woods-mould into a manure just as enriching as barn-yard manure, if composted together, and left in bulk a few weeks or months. If the proprietors of farms would collect and form such materials into composts, their quantity of farm manure could thus be increased in quantity two hundred per cent.

At all times their cow yards, pig-yards, and hog-pens, should be covered from 8 to 12 inches deep with such materials,—and should be regularly strewn over with plaster, or pulverized charcoal twice a week.

20 bushels of unslaked ashes, where stable or barn-yard manure may not be at hand, would convert 10, 15 or 20 loads of rough material, if thoroughly mixed with them, into rich manure.

Ditching and Draining.

All your wet lands should be ditched and drained, as you may rest assured that *wet* lands cannot be made to grow more than half crops.

Tops and Blades.

Cut and gather these with care—and preserve them after you have done so, as your stock will need all you can procure for them next winter.

Laying down Meadows.

If you have no meadow on your farm—do away with this reproach, by setting one during this month, the earlier the better.

Cow-stables and Sheds.

Have you such structures on your farm? If not, provide them without delay; for you may rest assured that your interest will be thereby promoted, as stock when warmly and comfortably housed through the winter, can be subsisted upon one-fourth less food than when left out in the elements.

Maryland State Ag. Society's Fair.

We conclude our month's conversation, by enjoining it upon all the members of this Association, to be in attendance, and bring samples of every thing cultivated or raised by them, whether it be *Wheat, Rye, Barley, Oats, Corn, Potatoes, and Vegetables, as well as Fruits, Stock* and *Poultry* of every kind,—and above all, to bring their *wives, daughters*, and *sisters*, with them. In England, and Europe, generally, the most brilliant attraction to be found at such exhibitions, is the array of lovely women,—and let it not be said, that *our* Exhibition shall be destitute of this magic point of interest. Without Eve, the garden of Eden, would have been a desert—without the animating—the soul-inspiring—presence of women, Agricultural Fairs, are but humdrum concerns.

REVIEW OF THE TOBACCO & GRAIN MARKETS.

Prepared for the American Farmer by J. W. & E. Reynolds.

Tobacco.—Since our last monthly report, large quantities of Maryland and Western Tobacco have arrived here, indeed to such extent that the inspectors have been unable to have it inspected for many days after its receipt, and it has been and still is, to a large amount, kept out of market from that cause. We are gratified to see that though the quantity received is much larger than was received during the month of July, prices have for some descriptions advanced from $1 to $1½ per hundred lbs. while no kinds have fallen off in value. Although the receipts for the past month are large, the amount inspected to this period is about the same as was at a corresponding period last year, so that it is now generally believed that the crop grown last year will very little (if at all) exceed the one grown in the year immediately preceding it, and sent to market last year. The stocks in first hands in Germany and Holland are still light—therefore, considering all these facts, we are of opinion that prices will not decline this year, and hope to see a further advance in prices.

The qualities in which the advance has taken place, are the common, frosted and middling, while the good and fine descriptions have, contrary to the anticipations of agents and dealers generally, remained at former rates. The market continues active, and sales are made nearly as fast as inspected, at prices, viz: common frosted, $3 to $3¼; sound common, $3¾ to $4½; dark red, $5 to $5½; ordinary yellow, $6 to 6½; fine, $7 to 7½, and extra $8 and 9.

Grain.—In anticipation that crops of Wheat in this country and Europe would be very abundant, the market for this article opened languidly, and in the early state, prices gave way, and ranged at 85 to 95c. for good to prime, and 75 to 85c. for inferior and "tough;" lately, however, prices have rallied in consequence of news from Europe, to the effect that the crop there was seriously injured and would fall very short of an average one, being received here, and also that the Potato crop in Ireland was very much damaged by "rot,"—prices have advanced, and now range at 88 to 98c. for inferior to good red, and 98 to 108c. for good clean white wheat, with a tendency upward, which will no doubt be the effect when the news referred to shall be confirmed fully.

Corn—Sells at 62 to 63c. for white, and 65 to 67c for yellow; Rye, 62 to 70c.; Oats, 28 to 33c.

The weather for several weeks has been so very rainy and damp, that it has afforded but few opportunities fit for farmers to prepare their grain for market, but notwithstanding this, many have gotten theirs out, regardless of weather, and sent it to market, consequently when it reached here it was "tough," and had to be sold and resold, subject to a considerable reduction. We would therefore respectfully suggest to the farmers generally, who consign to our market, the importance of getting their wheat out in *dry weather*, on a *plank floor* or sheet, and having it well cleaned, and of shipping wheat, corn, rye and oats, only when perfectly dry and firm, as otherwise they lose a great deal.

Guano.—Peruvian, 1 bag to 10 tons $43; 10 to 50 tons $42½; over 51 tons, and upwards, $41.50—demand brisk.—Patagonian No. 2, 1 to 10 tons, $28; 10 to 50 do. $27;—do. No. 3, 1 to 10 tons, $23; 10 to 50 do. $22—Mexican, 25—all per ton of 2000 lbs.

Hay, baled $20, and loose $18 a $20 per ton—Straw scarce. An advance in the Provision market has taken place.

Beef Cattle.—The offerings at the scales on Monday reached 600 head, 500 sold, at prices ranging from $3.50 to $4 on the hoof, equal to $7 a $7.75 nett, and averaging $3.75 gross.

Hogs.—Sales at the scales at $8 a 8.25.

Wool.—Sales of 4250 lbs. unwashed at 20 to 25c; 9000 lbs. tub washed at 28½ to 35c.; 4000 lbs. pulled at 30 to 32c.; 600 lbs. fine fleece at 35 to 45c.

Rice, scarce, at $5¼—the late news from Europe indicates an advance—Whiskey 25c. in bbls., 24 in hhds.—Sugars are firm—Plaster $2.81 a 2.87 per ton; ground $1.12 to 1.25 per bbl.

WORK IN THE GARDEN.

SEPTEMBER.

We shall briefly point out the things to be attended to in this most interesting part of every farm; because, as the garden is under the direction of the *lady* of the homestead, we know that in her love of order and harmony—in her devotion to the comfort and happiness of those around her—in her strict attention to whatever devolves upon her as a duty, we have the guaranties that nothing will be left undone that should be done—and, therefore, shall merely hint at what ought to be attended to, knowing full well that all, and more than all we can hope for, will be executed. With these remarks we shall proceed to state what work should now be attended to.

Spinach.

If not previously done, in the first week of this month, thin out your spinach plants, and give them a careful hoeing.

Having attended to this, prepare a bed on some dry ground, with a good warm exposure, for a crop for winter and spring use. Manure the bed freely, spade the manure in carefully, rake the ground well as the spading progresses, then mark out drills 8 inches apart, and 1 inch deep, then drill in the seed thinly, rake the seed in and press the earth gently with the back of a shovel, so as to bring it in contact with the seed. The prickly sort is the best kind to sow at this season of the year—it is hardy and stands the winter well.

When the plants have leaves an inch broad, thin them out by hand or hoe to 4 inches asunder, and clear the weeds away from among them.

Lettuce.

Your plants that may be large enough, should now be set out to head, and sow seed in frames for winter and spring use.

Sowing Radish Seed.

In the first week of this month sow radish seed of the turnip rooted sorts.

Endives.

In the beginning of this month have your endive plants set out.

Celery.

Earth up your celery. In doing so, avoid covering the hearts of the plants. This work should be done on a dry day.

Cardoons.

These should be earthed up for blanching.

Small Sallading.

Sow small sallading of all kinds.

Turnips.

If not already done, thin out and hoe your turnips, taking care to extricate all grass and weeds, but not to cover the bulbs.

Sowing Cabbage Seed.

If you wish to lay the ground work for early cabbages next year, then prepare a bed by manuring, digging, and raking. Then sow, say half an ounce, or an ounce, of each of the following kinds of cabbage seed, marking the space allotted to each sort, viz:—*Early York*, *Early Imperial*, *Early large York*, *Early Battersea*, *Early Sugar Loaf*, and *Early Smyrna*. Sow between the 1st and 10th of the month. After sowing the seed, rake them very lightly in, and pat down the earth with the back of a shovel. If the seed were soaked 6 hours in fish oil, and dried in ashes, they would be all the better of it. If at the time of sowing the seed, the weather should be dry, water the bed, after you have patted it down, and should the dry weather continue, water the bed every afternoon until rain occurs.

When the plants first come up, dust them with a mixture composed of *three* parts *soot*, and *one flour of sulphur*.

To promote their luxuriant growth, and prevent the ravages of the fly and lice, give them waterings twice a week with the following solution: Place half a bushel of horse dung in a tight barrel; on the dung place in a small bag, 1 quart of soot and 2 oz. of flour of sulphur; then fill up the barrel with water. After remaining 24 hours this solution will be fit to use; water your plants with it, and fill up the barrel again with water. It will bear being filled up three times.

These plants in about 6 weeks will be fit to set out; when we will tell you how to transplant them, so as to stand the winter, and ensure you early cabbages in the beginning of next summer. Don't omit to sow the seed, and do it between the 1st and 10th of the month; by so doing you will set an example to your neighbors worthy of all emulation.

Sowing Cauliflower Seed.

Prepare a border or bed, as recommended for cabbages, and sow cauliflower seed, and treat the plants precisely the same as recommended for Cabbage plants. In 4 or 5 weeks, the plants will be fit to be removed to frames, where they must be planted out, about 4 inches apart.

Working Cauliflower and Broccoli.

If the weather be *dry*, see that your gardener liberally waters the Cauliflowers and Broccolis that you desire to flower next month. Both of these are droughthy plants, and will not thrive unless they receive plenty of water. They must, besides, be kept clean, and the earth stirred so as to be kept open.

Siberian Kale.

This is *the* Sprout of Sprouts, and every garden should have a bed of it in it for early spring use. It is hardy, resists the winter, and is, withal, very productive, and much admired as a spring green. There is perhaps no kind of early greens which has so many admirers, brings better price, or meets with readier sale than it.

Preparation of the bed.

Select a dry sandy loamy bed, with a warm exposure; manure it heavily with stable dung, or barn-yard manure, dig in the dung a full spade in depth; then rake the bed; then make a compost consisting of 6 parts well rotted manure and 2 parts ashes; spread this about 2 inches in depth over the bed, rake it well in; then sow your Kale seed about as thin as turnip seed are sown; rake the seed gently in, pat down the earth gently with the back of a shovel, or roll it with a light garden roller—an implement that every garden should have—and then strew a mixture of equal parts of ashes, plaster and salt, over the bed. Sow between the 1st and 10th of this month, and next spring you will have an abundance of as delicious sprouts as ever graced the dinner table, contributed to its luxuries, or challenged the delights of the human palate, in the way of vegetables.

Gathering Seeds.

As your seeds ripen, they should be gathered

and spread out to dry on cloths. When perfectly dry, thrash them out, put them into bags, mark each kind, and put them away in your seed room till wanted.

PLANTING OUT HERBS.

Towards the latter end of this month, all *perennial, pot* and *medicinal herbs*, may be safely planted out in moist weather, and will be established by the time the earth is frozen.

WEEDS.

Have every thing of this kind pulled or cut up, and make your gardener compost them with some earthy base, to make manure, provided their seed is not ripe. If the seed has matured have the weeds burned.

WORKING THE GARDEN BEDS.

Keep a watchful eye over your garden, and see that your gardener does not let weeds, or grasses, go to seed in your enclosure; nay make him exterminate each and all whenever they get above ground. Examine the beds, make him work every one that needs it, and be sure that he keeps the earth open, in a condition to profit by the atmosphere.

We conclude by conjuring those Ladies, whose *fathers, husbands*, and *brothers* are attached to the *Maryland State Agricultural Society*, whose *fair* is to be held next month, to exert their every energy to make their department of it rich in every thing that tends to promote human comfort, advance human enjoyment, or excite the eye to pleasurable emotions—we conjure them to be here with the productions of their needles, their brushes, and of their gardens, their floral borders, of their orchards, their dairies, and their poultry-yards, not omitting their confections, domestic wines, cordials, and bounces, those delicate excitants which are so well calculated to advance the cause of enlightened temperance.

HON. WILLOUGHBY NEWTON ON THE PREVENTION OF SMUT.

The following letter comes very opportunely at this time. We sincerely thank its enlightened author for favoring us with it; and we are sure he will also receive the cordial thanks of every reader of our journal, for it so happens that the Smut, during the past season, proved a dreadful scourge to the wheat growers throughout an extensive area of our country. The ripe experience of Mr. Newton, as well as his high character, will impart additional weight to his communication, and we therefore commend it to the attention of our agricultural friends.

To the Editor of the American Farmer—

The article in your last number, on the subject of Smut in wheat, reminds me of several unanswered letters, received from various quarters, desiring information as to a preventive of this loathsome pest. I avail myself of your columns to give a brief answer to my correspondents as well as to yours, who are seeking information on he same subject.

The remedy is *cheap, certain and of easy application.* About it there can be no doubt whatever, as my own experience and that of many of my neighbors, and of thousands of farmers in other parts of this country and Europe, attests.

It consists simply in sprinkling the seed with a strong solution of Glauber Salts and stirring it until each grain is wet, and then coating it with *freshly slaked* lime. I believe there has been no instance of failure when this remedy has been properly applied. It has been perfectly successful in every instance in which it has been tried by myself and my neighbors, whose crops I have carefully observed, and whenever I have failed to use it, from confidence in the purity of the seed, or other cause, I have suffered severely. I have no doubt I have lost $500 this year on one farm, where it was neglected, and the entire loss might have been avoided by an expenditure of less than ten dollars. I do not deem it necessary to enter into details, as my views are not original, but were derived from the very satisfactory publication of M. Mathieu De Bombasle, a distinguished French agriculturist and philosopher, which was translated for the Farmers' Register, and republished in the 3d volume of that work, page 743.

You could not render a more effectual service to the farming interest than by publishing entire this valuable and interesting contribution to Agricultural science. It, in fact, contains all that need be said upon a subject now of the highest practical importance.

WILLOUGHBY NEWTON.

Westmoreland County, Va., August 7, 1852.

PREVENTIVE AGAINST SMUT.

The following upon this subject, is from the pen of an intelligent English gentleman, now a resident of Clarke County, Va., where he is engaged in farming, as he was in his earlier years in England. He speaks from his own experience, and is, therefore, to be implicitly relied upon. For ourself, we believe that any one of the recipes published in our present number, if pursued to the letter, would prove an effectual preventive. As the injury to the wheat crop, from smut last season was very great, we have felt it to be our duty to give our agricultural friends the choice of numerous means of guarding against it in the future. We will here suggest, that whichever recipe the wheat grower may select, success is only to be looked for, where the wheat grower *personally sees* that its requirements are rigidly carried out. If washing in pure water and drying in lime be adopted, the seed wheat must be washed whilever there is any discoloration of the water, and the *lime*, if used as the dryer, must be *freshly slaked*—it must be *quick lime*, as it should be in every case where it may be used; nor will it do to sow prepared and unprepared seed in the same field. Indeed, to ensure complete success, entire neighborhoods should submit their seed wheat to some preventive process.

CLARKE Co. Va. Aug. 9th, 1852.

To the Editor of the American Farmer—

As there are many complaints about the prevalence of smut in the wheat crop this season, I think it the duty of every one who has had any experience on the subject, to state that experience, for the benefit of his fellow agriculturists. Induced by this motive, I lay before you, and before your numerous readers, should you think it worth while, the following statement of facts, which every farmer may take for what he may think they are worth. Though I have hitherto had very little smut in my wheat in this country, I can remember when in both England and Scotland it was very prevalent and troublesome. I had the charge of a farm in Gloucestershire, Eng. from 1815 to 1826,

and for the first few years most of my wheat was more or less infected with that pest. Of course, many washes and nostrums were tried, some of which were attended with considerable expense, and some had the effect of preventing the vegetation of both the smut and wheat. Among these preventives were chamber ley, brine, &c. and also the solution of copperas, recommended by Sir John Sinclair, as given in your last paper. After trying some of these, and not without tolerable success, I settled down on the following method: The evening before I intended to sow the wheat, I washed it well in pure water, changing the water until it ran off perfectly clear; I then laid it down on a clean floor and mixed it with *quick lime*, in the usual way. The wheat, of course, was generally sown the next day, but if not sown for a week, it never failed to vegetate. From the time I adopted this practice, to the time of my leaving that farm, a period of 5 or 6 years, the smut never made its appearance in my wheat to any serious extent, although still found in considerable quantities in the neighborhood. Very respectfully yours, &c.

JOHN DOW.

The following is also from an experienced farmer:

ELKNECK, Aug. 16th, 1852.

DEAR SIR:—Agreeably to my promise I send you the manner in which I manage my wheat for seed. I use a large tub, into which I have the urine from the house put daily for some two or three weeks before seeding; a day or two before I commence seeding, I add salt (and water, if needed) enough to make a brine strong enough to swim an egg; to every 8 gallons of the brine I dissolve a pound of stone vitriol and put into it; I use a bushel basket, (made somewhat in the shape of a peach basket,) into which I put about 3½ pecks wheat, put it into the tub and let it stand about 10 minutes, stirring it the greater part of the time, taking off all that will come to the top; then lift it to the top of the tub and pull it partly over, so that the brine will drain from it into the tub, (there should be a sufficient quantity of brine to cover within 2 or 3 inches of the top of the basket when in the tub,) when sufficiently drained, put it on the floor, and sift some fresh slaked lime over every basket, then mix it all well together. I usually soak the wheat the evening before seeding. As the brine decreases, add more to it, using a pound of vitriol, as above. If every farmer will manage his wheat in this way, I think the smut machine may be dispensed with.

It was my intention to have written more on this subject, but I am very sick with dysentery, and with much difficulty write this; but if you find it worth publishing, and it will be of service to any of my brother farmers, I shall be truly grateful.

Respectfully yours, JOSEPH PHELPS.

I have sown from 150 to 200 bushels wheat in a season, for seven years, managed in this way, and never saw a smut grow with it.

SMUT IN WHEAT.

To the Editor of the American Farmer.

Some of your correspondents and many of my neighbors are complaining of Smut in their wheat; but so far as my experience goes, it is so easy to prevent smut, that the farmer is almost inexcusable who lets it get into his crop.

The best preventive that I know of, is to take a quantity of salt—fish salt is the cheapest—and make some strong brine; pour the seed wheat down in a pile on the barn floor, and throw a few buckets of the brine over it, and shovel it over till every grain is wet with the brine; have some dry slaked lime at hand, sift some of it over the pile of seed wheat, and shovel it over again until every grain has received a coating of the lime, and it is ready to sow. I do not know who discovered the above plan, but it is a sure one; I have tried it for ten or twelve years and have never known it fail. It is best to brine no more wheat at a time than is wanted for sowing the same day.

Burnt clay and ashes from brick yards.—Every brick-kiln requires from fifty to one hundred cords of wood, according to the size of the kiln, the ashes from which are exceedingly valuable. Burnt clay appears to be used by English farmers to enrich their lands, but upon what principle it operates I do not know. The best way to use the ashes from a brick-kiln is to plough up the earth to the depth of a foot or more, after the bricks are removed, and spread the whole over a field. It will enrich four or five acres. A FARMER.

Washington Co. Md. Aug. 11, 1852.

BURLEIGH, Sussex Co. Va. July 19, 1852.

To the Editor of the American Farmer—

Enclosed you will find two heads of wheat, each containing a few sound grains and smutted grains. This must establish the fact that the smut is produced by an insect; the smutted grain, in almost every instance, is punctured, though I have seen grains smutted when the puncture is not to be discovered. By taking the smutted grains at harvest, and putting them in a bottle, in a few days a worm will issue from each smut-ball. On the 17th inst. I exhibited these heads to our Agricultural Club, consequently you will discover some of the smut-balls taken from the heads. In every smut-ball taken out we found, with the naked eye, a worm; these worms, after keeping them some time, turn to the black bug that is found on all smutted heads about or after harvest. I have stated the facts as they have appeared to me, hoping that you will give us your opinion in your next. Soaking seed wheat in brine and rolling in lime, has turned out a complete failure in one of my neighbor's crops. I examined a good many crops, and to this crop the brine and lime was alone applied, and I found therein, just before harvest, more smut than existed in any other crop in the neighborhood.

Truly yours, THOS. E. BLOUNT.

SWAMP MUD.—Our correspondent at Mintonsville, N. C. is informed that his swamp mud should be composted before being put upon his field—he can mix it with barn-yard and stable manure, in the proportion of two loads of mud to 1 of the manure, or he may use any alkaline substance as a solvent, as ashes, potash, pearlash, soda, &c. If ashes be used, and they be unslaked, 5 bushels to the double horse-cart load, or he may use lime slaked with salt brine; but whatever substance he may use, a bushel of plaster should be mixed with every 20 double horse-cart loads of the mass, and the compost should remain long enough in compost for fermentation and decomposition to have actively commenced, before being used, and in the meantime the pile should be shoveled over. For such care it will pay with compound interest. We shall give next month very full directions upon the subject—such as will meet the necessities of every locality where such substances as are convertible into manure are to be found.

AMERICAN FARMER.

BALTIMORE, SEPTEMBER 1, 1852.

TERMS OF THE AMERICAN FARMER.

$1 per annum, in advance; 6 copies for $5; 12 copies for $10; 30 copies for $20.

ADVERTISEMENTS—For 1 square of 12 lines, for each insertion, $1; 1 square, per ann., $10; ¼ column, do. $30; 1 column, do. $50—larger advertisements in proportion.

Address, SAMUEL SANDS, Publisher.
At the *State Agricultural Society Rooms*, No. 128 Baltimore st. over the "American Office," 5th door from North-st.

PREMIUMS TO AGENTS.

In accordance with our usual practice the following premiums will be awarded to those who send us the largest lists of subscribers, up to 8 o'clock on the first evening of the annual meeting of the State Agricultural Society, viz:

For the largest list, with the cash,			$50
" 2d	do	do	35
" 3d	do	do	25
" 4th	do	do	15

The subscriptions will be received at the club prices, viz:—6 copies for $5; 13 copies for $10, and 30 for $20, and may be sent on from time to time, as obtained, to the hour indicated, when the decision will be made, and the premiums awarded in cash, silver plate, or agricultural implements, at the option of the agent. All communications to be addressed to SAMUEL SANDS, Publisher,
128 Baltimore st., Balt., Md.

THE CATTLE SHOW
OF THE
Maryland State Agricultural Society.

We refer to the advertisement on another page, and to the list of Premiums, rules and regulations, &c. which accompanied our June No. New subscribers and others who may desire to obtain copies, can receive them on application at this office.

We have every reason to anticipate a greatly increased attendance at the coming Show over that of last year, and we cannot conceive it necessary for us to present any arguments to convince the farmers and planters of our own and the neighboring States, of the duty they owe to their profession, to prepare to take some part in the Exhibition, and to give their own attendance, and bring with them their wives and families to this great gathering of the Agriculturists of the Middle States. A welcome is extended to all, and we hope no farmer within hailing distance of our city, will hold back from uniting with us; and by enrolling his name on our list of members, thereby give the weight of his influence to the *great* cause of the country.

☞ ADVANCE IN THE PRICE OF BREADSTUFFS.—It will be seen by our prices current, that a material advance has taken place in flour and grain, and a further rise is anticipated.

The Valley Agricultural Society, of Va. holds its Exhibition at Charlestown on 21st Oct. Col. W. W. Bowie, of this State, has accepted the invitation to deliver the annual address.

TRIAL OF HAY PRESSES.

HAYFIELDS, Balt. Co. Md., Aug. 24, 1852.

To the Editor of the American Farmer.

SIR:—I observe you have, by the published notice in the Farmer of the trial of Hay Presses, placed my name in the position of Chairman of the Committee—Mr. Walsh, of Harford Co. is the Chairman, and by his authority I fixed the time for the trial, and gave you notice thereof.

Competitors for the Premium, should ship their Presses at Calvert Station on Saturday, 4th September, before 2 o'clock, P. M., which will insure their arrival at Cockeysville early on Monday. Immediate notice should be given to the R. R. Co. for cars, for the Presses, and notice of the intention to ship should be forwarded to my address, Cockeysville.

Each press should be accompanied with a person to superintend its transhipment at Cockeysville, and put it up at the place of trial—for that purpose, they should take passage on the way train of cars, leaving Bolton Depot, Cathedral street, at 4 o'clock, A. M. on Monday, 6th September.

Very respectfully, JNO. MERRYMAN, JR.

☞ The trial, as before announced, takes place on Wednesday, 8th Sept. at Mr. M's. farm, near Cockeysville.

Hay, Straw and Grain for the Cattle Show.—We refer those disposed to contract for the supply requisite at the coming Show, to the advertisements on another page.

Jno. Q. Hewlett, esq. who has for several years presented the Society with a load of hay and straw, has proffered a renewal of his offer for the ensuing season. Such liberality on the part of this gentleman, we should have supposed would have "provoked to good works" others in the vicinity of our city. May we have the pleasure in our next, of announcing that others have followed his example?

THE GUANO ISLANDS.—We have received from an esteemed correspondent, an interesting paper on the subject of the Peruvian Guano Islands, which we are unable to publish in this No. It will be given in our next. It is an historical account of these Islands, of much interest at this time, having a bearing upon the question of the right to the Lobos deposits by the Peruvian government.

C. P. Holcomb, esq. of Delaware, has sent to the N. Y. Journal of Commerce an able paper on the same subject.

☞ We have received from T. S. Pleasants, Esq. a communication on the subject of the use of Plaster with Guano, with a request to publish it in the present No.—We would have complied with the request with much pleasure, had our columns not already been engaged prior to its reception. It will certainly appear next month. We have also received from Mr. Caleb Stabler, of Montgomery Co. Md. a communication on the same subject, which, with others, will appear next month.

☞ We have received a communication from several of the guano dealers of this city, in reply to some of the remarks contained in the letter of Mr. Davis, published in our last.

SOUTH DOWN SHEEP.—We have frequently of late had applications for South Down Sheep—The little flock advertised may be relied on as pure, and will be sold quite low to any one taking the whole lot.

Bucks Co. (Pa.) Agricultural Society.—The 9th Annual Exhibition of this society will take place at Newtown, on the 29th Sept.—An invitation is given to Agricultural societies of other States to attend. The premium list is large and liberal in amount.

Montgomery Co. (Md.) Agricultural Society, holds its annual exhibition at Rockville on the 9th of this month, (Sept.) Benj. Hallowell, Esq. of Alexandria, has been invited to deliver the address, and has accepted the invitation. The celebrated Kaizi cattle are to be exhibited at this show.

The Delaware Horticultural Society holds its annual Exhibition on the 22d and 23d Sept. at Wilmington. Competition for premiums is open and free to all persons from any section of the United States. The list of Premiums is very liberal.

The Washington Co. (Md.) Society holds its 1st Exhibition at Hagerstown, on the 13th, 14th and 15th Oct., and has offered a very liberal list of premiums to competitors from any State.

Prince George's Co. (Md.) Agricultural Society, holds its 12th annual Exhibition at Upper Marlboro', on the 18th and 19th Oct. This society has ever been conducted with a vigor and success worthy of the imitation of other counties of our State—in every one of which a society should exist.

Poultry Exhibition.—The New England Society for the improvement of Domestic Poultry, hold their exhibition at Boston, on the 7th, 8th, 9th and 10th Sept. inst.

The Exhibition of Poultry at the Maryland State Show this fall, is expected to be very interesting. Mr. Gaddess and Mr. Bowers, who have heretofore made such interesting displays of birds and fowls, expect to increase their show very materially, as will, no doubt, other exhibitors.

NEW PLASTER AND BONE MILL.—It will be perceived by the advertisement on another page, that Mr. J. Barker, of this city, has commenced grinding Plaster and Bones, and we can and do most cordially recommend him to the patronage of the farming community, with the assurance that whatever he promises will be assuredly fulfilled.

GUENON'S TREATISE ON MILCH COWS.—We have received from *Ch. Harvey,* Esq. of Delaware Co. Pa. a very interesting communication, furnished at our request, giving his experience as to the reliability of the "escutcheons," as explained in the above mentioned work. With various other interesting matters it is laid over for our next. Had we at command twice the space embraced in our pages at present, it would not suffice for us to publish all the valuable papers which we desire to lay before our readers.

A new Seedling from the Crab Apple.—Dr. Edmondson, of this city, has left with us a sample of a new seedling Apple, raised by him, which is represented to be a very fine apple to preserve whole. It is larger than the common crab, skin and flesh bright gold color, with a bright red on the sunny side. It is a beautiful apple, and we hope its cultivation may be extended.

AYRSHIRES.—A fine young bull of the Ayrshire breed, from Mr. R. M'Henry's herd, raised by Mr. Frizzell, passed our office a few weeks ago, on his way to Easton, Md. for Mr. Dl. Lloyd. This breed of animals is becoming every year more popular.

PROCEEDINGS OF THE EXECUTIVE COMMITTEE OF THE MARYLAND STATE AGRICULTURAL SOCIETY.

BALTIMORE, AUG. 4, 1852.

The Executive Committee met this day, agreeably to the By-Laws—Chas. B. Calvert, Esq., President, in the chair.

The Treasurer presented a statement of the finances, which was read, and on motion, Messrs. Dobbin, Brooks and Iglehart were appointed as a committee to examine and report on the same, to the Annual Meeting.

On motion of Mr. Walsh, of Harford, the President was requested to address Prof. Norton, of Yale College, Conn., inviting him to deliver the Annual Address.

Mr. Sands moved that all wines and spirituous liquors be excluded from sale in the booths during the Cattle Show—Mr. Iglehart seconded the motion—which was dissented from.

Mr. M. Goldsborough moved that for each booth, in which wines and liquors shall be sold, not less than $200 be charged; and for the booths in which they are excluded, not less than $100 each—to be paid in advance; and that the occupants of the booths be obligated to keep order in and about their respective premises, under a forfeiture of their privileges, at the discretion of the Committee of Arrangements—which motion was adopted.

Mr. Calvert submitted the following rules for the distribution of rations to stock on exhibition, which were adopted, viz:

For Horses and horned cattle, over 2 yrs. old, hay and grain to the value of 20 cts. each head, per day; do. 2 yrs. and under,—and for each head of hogs and sheep, 12½ cts.; and for every dozen fowls, 5 cts. per day—tickets to be issued to the exhibitors, on the agent of the Society, for the supply to which each one is entitled—all beyond the amount above specified, to be paid for by the owners of stock.

On motion of Mr. Sands, it was ordered, that a Committee of Arrangements be appointed, to whom all the arrangements pertaining to the Annual Exhibition, not otherwise provided for, shall be entrusted, and by whom all the assistants, gate keepers, police, &c. shall be appointed, and their compensation fixed. Committee—Messrs. C. B. Calvert, S. Sands, G. W. Dobbin, T. S. Iglehart, J. C. Walsh, and C. Brooks.

On motion, the Secretary was directed to advertise for proposals for hay, straw, grain and mill feed, and also for the renting of the booths, the proposals to be acted on at the first meeting of the Committee of Arrangements.

The Secretary was also directed to correspond with the several Railroad and Steamboat companies, for the purpose of obtaining the usual facilities afforded to exhibitors and visitors to the Cattle Show.

The Secretary called attention to the resolution of the Society, passed at the last Annual Meeting, and referred to the Executive Committee, relative to a more quiet room for holding the discussions of the Society at its annual meeting.—The subject, on motion, was referred to the Committee of Arrangements.

The attention of the Executive Committee was called to a discrepancy in the premium list, in the Sheep department, the list not being in accordance with the scale adopted at the last meeting, as of-

fered by Col. Ware—The consideration of the subject was deferred to the next meeting.

On motion, it was ordered, that it be required of all persons intending to exhibit stock, to give a particular description thereof in writing, to the Secretary, by the 22nd of October,—those complying with this rule to have their applications handed to the Chief Marshal, who will designate the stalls in the order in which they are applied for.

On motion, it was ordered, that the Committee of Arrangements meet at the Hall of the Society on Thursday, the 9th Sept. at 10 o'clock, for the purpose of making the necessary preliminary arrangements for the Show.

The death of Dr. Jos. E. Muse, Vice President of the Society for Dorchester Co. having been announced to the Committee, the President, after some appropriate remarks upon the character of the deceased, and the devotion which he had always displayed to the cause of Agriculture, offered the following resolutions, which were unanimously adopted.

Resolved, That this Society has heard with deep regret the death of Dr. Jos. E. Muse, Vice President of the Maryland State Agricultural Society for Dorchester County.

Resolved, That in his death, the farming interest of Maryland has lost one of its most scientific, enlightened and devoted advocates, and our Society, one of its most respected officers.

Resolved, That these resolutions be published with the proceedings of the meeting in the American Farmer, and that a copy thereof be forwarded to the family of the deceased.

On motion of Mr. Sands, the Committee proceeded to the election of a Vice President for Dorchester county, to supply the vacancy occasioned by the decease of Dr. Muse, when Wm. T. Goldsborough, Esq. was duly elected.

The Committee then adjourned to Monday evening, 25th October next.

By order, SAML. SANDS, Sec'y.

Lime as a Solvent of Vegetable Matter.

A subscriber at Fayetteville, N. Carolina, asks us the following question:—

"What is the smallest quantity of quick lime that would do for the complete decomposition of a cart-load of vegetable matter in a compost heap?"

We should not advise the use of quick lime *alone* as a solvent of vegetable matter—by vegetable matter, we presume our correspondent means marsh mud, or some similar substance—if he does, then we would say that 5⅓ gallons of lime slaked, or made into a paste-like form with the brine made from 2 gallons of salt, would effect the decomposition of a double-horse cart load of such rough material. These materials must be incorporated well together, left in bulk in warm weather 5 or 6 weeks, and should be every 10 or 12 days shoveled over. It would however, be better to mix 1 load of barn-yard manure with two of muck, layer and layer about—or to mix with every double horse cart load of the muck or mud 5 or 6 bushels of ashes and ½ peck each of salt and plaster. To reduce any rough vegetable substance into a complete state of decomposition takes time and the aid of several shovelings to let in the air. It has been practically proved that a dead horse, if covered with 20 loads of peat, would convert the whole of it into manure equally as quickening, and more lasting than so much barn-yard or stable manure.

The theory is, that 30 lbs. of potash, 20 lbs. of soda ash, or 8 bushels of unslaked ashes, will convert 100 bushels of peat, or muck, into good manure—the potash, or soda, to be dissolved before application—the ashes to be mixed in with the peat. The pile must be several times shoveled over if intended to be used immediately.

Culture of Onions.

Our correspondent at Fayetteville, N. Carolina, is informed that onions can be raised in his latitude, and that the best, because cheapest, plan to grow them is from the seed. We have raised as large onions from seed as we ever did from the sets, and so have many others of our acquaintance.

The ground should be manured with well *rotted* dung—or guano will answer as well—for the ¼th of an acre of land, the quantity named by our correspondent,—five loads of decomposed manure, or 75 lbs. of guano, will be about the right quantity. It should be ploughed or spaded in, and the soil made perfectly fine with a rake; that done, drills should be laid off 12 inches apart, 1 inch deep and the onion seed sown very thinly in the drills, covered and pressed down with the back of a shovel or rake.

Time of Sowing.—As early in the spring as the ground can be advantageously worked.

Quantity of Seed per acre.—Three or four pounds, which, to ensure thin sowing, should be mixed with four times its bulk of fine sand or ashes. At the time the seed are drilled in, the bed should receive a top dressing composed of equal parts of ashes, plaster, and soot.

After Culture.—When the plants have come up and are about an inch or two high, they should be worked with the hoe, and thinned out so as to stand 3 or 4 inches apart in the drill. Two other workings should be given them in the early stage of their growth. After the bulbs begin to form, the weeds and grass should be pulled up by hand, as it is unsafe after that period to work with the hoe.

Plaster Paris.

Poolesville, Montgomery Co. Md. May 5, 1852.

To the Editor of the American Farmer—

Sir:—A gentleman of Buckingham, Va. complains of having been imposed upon in the purchase of worthless plaster, and wishes a description of such as may be relied on as genuine. Below will be seen an extract which I make from a work of considerable merit, and describes the best kind of plaster, and the only kind used with advantage in England.

(Stone's Agriculture, p. 238.)

"Gypsum is a compound of calcareous earth and vitriolic acid: it forms a distinct species of the calcareous genus of fossils, of which species there are six families.

Of the six families of this species I shall describe but one, namely, that which has been most advantageously employed as a manure. Descriptions of the other five should be found in treatises of mineralogy. It is called *fibrous gypsum.* Its colors are grey, yellowish or reddish, or silver white, or light red, or brownish yellow, or striped with one or more of these dark colors. It is composed of *fibres* or *strix*, either straight or curved, parallel or converging to a common centre, adhering to each other, and very bitter: its hardness such as to admit being scraped with the nail: commonly semi-transparent; in some, often in a high degree.

J. T. V.

REPORT

Of the Committee on Reaping and Mowing Machines, at the trial at Springfield, Ohio, June 30, and July 1st and 2d, 1852.

TO THE OHIO STATE BOARD OF AGRICULTURE:

The committee being desirous of managing this trial of machines in such manner as would most fully accord with the views of the exhibitors, as well as subserve the interests of the public, invitation was given for the manufacturers and exhibitors of the machines to meet with the committee at the Anthony Hotel in Springfield, on the evening preceding the first day's trial; at which meeting a free interchange of opinions was had, and suggestions were made by various exhibitors in regard to the rules adopted by the committee, and the best mode of conducting the trial. The utmost good feeling was manifested, and the committee expressed a willingness to comply with the wishes of the exhibitors in regard thereto, as far as their wishes had been expressed, and when not in conflict with the rule as published.

A call was then made for the entries of the machines to be tried, and the following is the list:

1. Palmer & Williams' Self Raker—Brockport, New York.
2. C. H. McCormick, Reaper and Mower, combined and attached, Chicago, Ill.
3. A. J. Purviance, attach and detach Reaper and Mower, Warrenton, Jeff. Co., Ohio.
4. Hussey's Improved Reaper, by Minturn, Allen & Co., Urbana, Ohio.
5. Hussey's Improved Mower, by do:
6. Haines' Illinois Harvester, Pekin, Ill.
7. New York Reaper, by Seymour, Morgan & Co., Brockport, N. Y.
8 Densmore's Self-raker, by Warder & Brokaw, Springfield, Ohio.
9. S. P. Castle's Mowing Machine, Urbana, Ohio.
10. A. J. Cook's Reaper and Mower, by Hatch, Whitely & Co., Springfield, Ohio.
11. B. Smith's Grain and Grass Cutter, Batavia, Illinois.
12. Ketchum's Mowing Macaine, by Howard & Co., Buffalo, New York.

The first day's trial of Reapers was on the farm of Dr. J. A. Warder, about 2 miles northeast of Springfield. The field was mostly level and free from obstructions, excepting a few apple trees. The wheat was of fair average growth and yield, stood up well, and was rather green for harvesting.

All the machines were tried, as many rounds each as the time would allow, and with the exception of two or three which were somewhat imperfectly constructed, or not properly adjusted for the work, all performed the work well. The day was fine, and a large concourse of spectators was present, and manifested much interest in the exhibition. Indeed, so eager was the crowd to witness the performance of each machine, that it was at times difficult for the committee to obtain a fair comparison of their respective work.

After a day spent in the trial of Mowing Machines, the trial of Reapers was resumed on the farm of Mr. Foster, on the National road, one mile southeast of the former field. The ground here was more rolling, with some stones and stumps; the grain well ripened, and some parts considerably tangled and lodged, thus affording opportunity to test the working of the machines under adverse circumstances.

No. 1. *Palmer & Williams' Self-Raker*, the committee regard as perhaps destined to be of value. It has a reel in front similar to McCormick's, and is designed to rake off on the side. The raker attachment is a very ingenious contrivance, and may succeed well; but it has not been thoroughly tested as yet, and owing to the defective construction and breakage of one or two small parts, it did not work satisfactorily.

No. 2. *McCormick's Reaper* was repeatedly tried in both fields, and when the raking was done by very expert hands, it performed the work well: but still, in comparison with several others, the committee thought that this machine did not quite maintain its world-renowned reputation. It cuts the grain very well, a good wide swath (6 feet,) but it requires more strength of team than most others—3 or 4 horses in stout grain—and much skill and hard labor on the part of the raker, who rides backwards on the machine, working in a straining position. The gavels are deposited on the side, so as to leave the track clear for the next round of the team. The machine is durably constructed, as was shown by running unexpectedly against a stump when at full working speed, without sustaining any damage.

There may be an objection to the working of McCormick's machine in the great *side draft* upon the wheel horses, which can only be remedied by an additional force attached to the end of the tongue.

No. 3. *Purviance's Reaper* also performs the cutting part admirably, and its mechanical construction is of the best character. It has a reel forward, and the raker sits sideways on the machine and deposites the grain behind in the same manner as Hussey's, which may be urged as an objection, as the grain must be taken up before the machine can make a second round. Indeed, the machine very nearly resembles Hussey's, with the exception of the reel. It is also rather too hard work for one pair of horses—resembling in this respect both Hussey's and McCormick's.

No. 4. *Hussey's Improved Reaper*, by its simplicity of construction (being destitute of reel, &c.,) and its evident durability, impresses the committee, as it does all spectators, quite favorably. It also performs the work in a very satisfactory manner in most situations. The absence of a reel to bend the grain on the knives renders it somewhat difficult to cut with the wind, or in slanting grain, unless it leans towards the machine. It also requires rather greater speed of the team than is usual for farm horses, or than is necessary for machines with reels. On the other hand it is objected to the reel, that in fully ripe grain it will cause a little waste by shelling when driven fast. Hussey's machine is also particularly liable to the objection of *side draft* upon the team. Its width of swath is 5 feet; selling price, $115.

No. 6. *Haine's Illinois Harvester* differs essentially from all the others. The horses work behind, propelling the machine before them, and it is designed only to cut off the heads of grain, with 12 to 18 inches of the straw, which is carried by a revolving apron up on to a wagon having a large rack or frame which is driven along by the side of the machine for the purpose, and when filled is taken to a barn or rick to be emptied, and another takes its place. The machine is quite ingeniously constructed and works very well, only it is too large and cumbersome, and requires too many hands and horses for Ohio farms, however well it might an-

swer on the broad prairies of the west. This machine can be worked so as to cut nearly as low as others, and rake the grain off at the side for binding, but it still is difficult to guide and manage, and requires a man to steer, besides the driver and raker. —As a curious specimen of prairie farming machinery, it afforded much interest to spectators. Its width of swath is 8 feet; price is $230.

No. 7. *Seymour & Morgan's New York Reaper* was much admired for its lightness of draught and quiet easy running; while it also performs good work. The gearing of this machine differ somewhat from all the others, and is believed to be a decided improvement, securing lightness of draught with less noise and friction. The position of the knives, also, being on a line with the driving wheel, gives the machine advantage when crossing furrows or other inequalities of surface. The raker is stationed on the rear of the platform facing his work, and shoves off the gavels on the side; but like others of this kind, it was difficult for the raker to avoid scattering the grain, and in heavy and tangled wheat the machine occasionally choked.—With a little further improvement this will be found a first rate machine. Its width of swath is 5 feet; price is $120.

No. 8. *Densmore's Self-Raker*, like several others, does the cutting part in first-rate style, and in addition rakes off the grain in a very satisfactory manner on the side, thus dispensing with the labor of one man, and thereby having superiority over all the machines. The raker attachment of this machine is a very ingenious and effective yet simple contrivance, and does not seem liable to get out of order. It may be objected that this and other self-raking machines cannot deposite the grain in handsome gavels where it is tangled or lodged; but in the opinion of the committee, this machine does the raking in all conditions of grain as well or better than is done by the hand with the other machines raking off at the side. In its mechanical construction, ease of draught, &c., this compares favorably with the other machines. Its width of swath is 5 feet 10 inches; selling price is $140.

No. 10. *A. J. Cook's Reaper* does the cutting well, and is designed for a self-raker, but owing to a want of sufficient experience with its use, or of mechanical skill on the part of its inventor, it does not do the raking in a proper manner. The committee, however, are of the opinion that it can be made an excellent machine. The raker is combined with the reel which bends on the grain, and is quite a simple and ingenious invention. It is commonly made to rake off behind, but is also designed to deliver on the side, by the attachment of a revolving apron. This, however, was not done in the presence of the committee. It is sold at $100 to $120.

No. 11. *B. Smith's Reaper*, like the other from Illinois, is somewhat of a novelty. The forward part of the machine is attached to the forewheels of a common farm wagon. In other respects it does not differ very materially from other machines. The raker stands on the back part of the platform and rakes off at the side. Where the grain stood well, and with careful driving, it did pretty fair work.

MOWING MACHINES.

No. 2. *McCormick's Mowing Machine* is the same as his reaper, only changed by removing the platform, and setting it to run closer to the ground. For some reason not explained to the committee, it did not work satisfactorily at this trial, frequently requiring the weight of one or two men on the machine to keep the knives close enough to the ground.

No. 3. *Purviance's Mower* is also of the combined and convertible kind, being only his Reaper with the platform removed, and the running parts placed nearer the ground. These alterations are very easily made with this machine, and it worked quite fairly as a mower; still it was not as good as the machines constructed only for mowing, and the committee do not feel warranted in recommending a premium for 'combination' machines, as in their opinion no machine will do both kinds of work so perfectly as those made expressly for each. They would suggest that where a farmer does not feel able to buy both a Reaping and Mowing machine, that he should unite with a neighbor, and one buy a Reaper and the other a Mower.

No. 4. *Smith's* (Illinois) *Mower* was also of the combination kind. It came into the field too late to have a fair trial, and was imperfectly adjusted in some of its parts, so that it failed to do good work.

No. 5. *Hussey's Mower*, like his Reaper, is quite simple in its construction, and consequently not liable to get out of order. It did its work well, and like the Reaper, requires a team of three or four horses.

No. 9. *Castle's Mower* is a very creditable machine—quite new, as yet, and needing some improvement in the way of securing greater strength and durability. It has a reel to bend on the grass, cuts very smooth and clean, and is of light draft. It cuts with two series of knives attached to a crank, working like shears. The committee, without further experiment, have some doubts as to the successful operation of this form of knives, when they become a little dull.

No. 12. *Ketchum's Mowing Machine*, though named last, was the first to enter the field, and its performance, as a whole, was not quite equalled by any of its competitors. It is also the most simple and durable in its construction, and quite easy of draught, requiring a team of two ordinary horses. Its cost is $110.

SIDE DRAFT. The position of the driving wheel upon Densmore's and Seymour & Morgan's Reaping, and Ketchum's Mowing Machines, is such as to balance the resistance; and under ordinary circumstances, obviate the inconvenience of side draft, even when driven with a single team.

RULES FOR JUDGING OF THE COMPARATIVE MERITS OF THE DIFFERENT MACHINES.

The committee, according to previous advertisement, were governed by the following rules in making their awards, and deciding upon the respective merits of the several machines, viz:

1. Which machine cuts the grain or grass in the best manner.
2. Which does the most work in a given time.
3. Which leaves the grain in the best order for binding.
4. Which causes the least waste.
5. Which is the best adapted for uneven surface.
6. Which is the least liable to get out of repair.
7. Which is the least cost.
8. Which requires the least power to drive the machine.
9. Which requires the least manual labor.
10. Which is the best adapted for stony or stumpy ground.

Whichever of the machines so tried, has, combined, the greatest number of the above qualifications, in the opinion of the majority of the committee, to be pronounced the best machine.

The committee in deciding upon the above qualifications, took a vote upon each rule separately, to see which of the machines was first or best in regard to that point; and if several were thought to be alike good, they were so set down. In these decisions the votes of the committee were unanimous.

COMPARISON OF REAPING MACHINES.

Rule 1. *Which machine cuts the grain in the best manner*—Hussey's, Densmore's, Seymour & Morgan's, Purviance's: all nearly or quite equal.

2. *Which does the most work in a given time*—McCormick's, Densmore's, Purviance's. Others that cut a little narrower swath were regarded as nearly if not quite equal under this head, owing to their greater speed.

3. *Which leaves the grain in the best order for binding*—Densmore's, Purviance's, Hussey's.

4. *Which causes the least waste*—Hussey's, Purviance's, Densmore's.

5. *Which is the best adapted for uneven surface*—Seymour & Morgan's; but those above named very near as good.

6. *Which is the least liable to get out of order*—Hussey's. with Seymour & Morgan's next.

7. *Which is the least cost*—Hussey's.

8. *Which requires the least power to drive the machine*—Seymour & Morgan's and Densmore's.

9. *Which requires the least Manual labor*—Densmore's.

10. *Which is the best adapted for stony or stumpy ground*—Hussey's, McCormick's, Purviance's, Seymour & Morgan's, Densmore's: alike.

PREMIUMS.—The committee recommend that the State Board award a Gold Medal, as first premium, for Densmore's Reaping Machine, by Warder & Brokaw, Springfield, Ohio; and a Silver Medal, as second premium, for Hussey's Improved Reaping Machine, by Minturn, Allen & Co. Ohio.

COMPARISON OF MOWING MACHINES.

Rule 1. *Which machine cuts the grass in the best manner*—Ketchum's, and Castle's.

2. *Which does the most work in a given time*—Ketchum's, and Hussey's.

5. *Which is the best adapted for uneven surface*—Ketchum's.

6. *Which is the least liable to get out of repair*—Ketchum's and Hussey's.

8. *Which requires the least power to drive the machine*—Castle's.

9. *Which requires the least manual labor*—Ketchum's and Castle's.

10. *Which is the best adapted for stony or stumpy ground*—Ketchum's and Hussey's.

PREMIUMS.—The committee recommend that the Board award a Gold Medal, as first premium, for Ketchum's Mowing Machine, by Howard & Co., of Buffalo, N. Y.; and a Silver Medal, as second premium, for Hussey's Machine.

The committee feel that there is much credit due the officers of the Clark and Madison Agricultural Society, for their prompt and efficient aid in making preparation for the trial of Reapers and Mowers at Springfield; and also to certain individuals for furnishing grain to try the experiment upon, and horses to work the machines, and for their constant attention to the wants of the committee, exhibitors, and spectators throughout; and further, to the marshal, assistant marshal, and police, for their efforts to preserve order and give all an opportunity to see and be satisfied.

The operation of Haying and Harvesting machines were comparatively new to a large portion of those in attendance, and a portion of the committee had previously enjoyed only limited opportunities for observing the practical working of most of the principles involved. All were very strongly impressed with the importance of such labor-saving machinery in agriculture, thus enabling the farmer to secure a large crop, at the right time, with unprecedented dispatch, and also with less waste than usually attends the ordinary manual labor methods.

The committee have full confidence in recommending these machines to the farmers of Ohio, believing that their use in the harvest field will give general satisfaction, and lead to improved modes of husbandry, alike economical and profitable. They would also urge upon manufacturers the great importance of so thoroughly constructing their implements as to obviate complaint, for which too frequent cause is given, of breakage or derangement of working parts, by which much time is lost in repairs, and the credit of the machine not a little damaged. The timber should be chosen of the most durable kind, the smaller irons carefully wrought, not cast, and the general workmanship of a good and substantial finish.

J. T. PUGSLEY, Convenience, Fayette Co.
A. WADDLE, South Charleston, Clark Co.
WM. HUNT, Urbana, Campaign Co.
JOHN KELLER, Bell Brook, Green Co.
DAN'L MCLEAN, Washington, C. H. Fay. Co.
JOHN S. HALL, Columbus.

THE LOBOS GUANO ISLANDS.—The letter of the Secretary of State has been published, giving the reasons why our government has determined to protect our merchantmen in the obtainment of supplies of Guano from the Lobos Islands—and Com. M'Cauley, of the Pacific squadron, has been ordered there for the purpose. It is said that 30 or 40 ships have been sent out for this guano from different ports, especially from New York.

New Castle Co. Del.—A correspondent, under date of 17th Aug. writes us as follows:

"I embrace the occasion to inform you that the wheat crop of New Castle Co. is very little more than half a crop, in consequence of the drought during the fall, and severe winter. Our Corn crop never looked better. The Peach crop of this immediate vicinity promises a fair remuneration,—the Messrs. Reybold are sending daily around by sea to N. York between 300 and 1000 baskets; the crop of that family is estimated at from eighty to one hundred thousand baskets."

☞ With the cash for the renewal of the subscriptions of subscribers at Fleetwood Academy, Va. the Postmaster adds:

"I cannot forbear remarking, that your work is appreciated and admired far above any other work received at this office; if he be a benefactor to his kind, who makes two blades of grass grow where one grew before, how much more so is he who has caused a double quantity of the staff of life to spring up and gladden the eyes and hearts of all where his precepts are heeded. With best wishes for the success of your philanthropic labors."

HUSSEY'S REAPER.

GREENWOOD, 22d July, 1852.

To the Editor of the American Farmer—

I think you will be doing an act of justice to your ingenious and worthy townsman, Mr. Hussey, and a benefit to the farming community, by giving the enclosed interesting letter from Mr. Stabler a place in the Farmer.

Having completed my second harvest with one of Hussey's Reapers, I am prepared to speak experimentally of its merits, and I do not hesitate to pronounce it one of the most valuable *labour* saving machines I have ever met with. It cuts easily and perfectly, scarcely ever leaving a head, and lays the grain much better for the binder than it is possible to do with the scythe and cradle. In *heavy* grain, (where its superiority is best shown,) I confidently believe the machine will do the work of seven or eight cradles, and in far better style.

I have not yet tried my machine in grass, but having seen Mr. Stabler's field just after he had taken from it a heavy crop of grass, cut with "the Mower," I have no longer any doubt of its superior excellence in the meadow as well as the grain field. The comparison to the back of a fat sheep, nicely shorn, is the most apt illustration of the manner in which the work was done, which I can give. The mark of the wheel upon the stubble was the only evidence of where, or in which direction the machine had gone about its work—its pointing in, or pointing out, could be found. The work seemed to be perfection itself.

My machine having gone through two harvests, a considerable portion of each of which was upon very rough land, and now ready for a third, with but two grindings of the knives, and less than a dollar's expense for repairs, is the best evidence I can give of its strength and durability. Another advantage which this machine has over the scythe and cradle, is the beautiful manner in which it disposes of the hands. Taking the whole field in a circuit, the ten or eleven hands necessary to bind and set up the grain as fast as it is cut, are disposed at intervals, all around the field, too remote from each other for interruption by talking and laughing, or as is sometimes the case, angry disputations. As the machine constantly gives warning of its approach, none are "caught napping," but the effort of each hand is quietly to do his work, and "get out of the way," so as not to stop the machine, which would immediately expose the laggard. This can be done without extra effort by the number of hands above stated, and frequently time to spare. Respectfully yours,

—— A. B. DAVIS.

HAREWOOD, 7th mo. 16, '52.

Esteemed friend, A. B. Davis:

The request to give my opinion of Hussey's Reaping and Mowing Machine, is now complied with, after having cut my crop of grass, together with a full opportunity to judge of its merits in cutting my wheat and oat crops. I prize it more highly for mowing and cutting clover seed, than for reaping;—not that it performs any better in grass, than in grain, but it is more desirable to me in the former crops, being usually of greater extent.

I think we have made some improvements in the machine itself and the mode of using it; but be that as it may, from an experiment made to test the relative merits of the machine and scythe, I have arrived at the conclusion, that the mower, with two horses, and two active boys, (competent to drive a span of horses with lines, and to use a light hand rake with dexterity) is quite equal to eight or ten scythes, in amount of work done in a given time;—that the mowing is far better than it can be by the scythe, and at less than one-fourth the expense.

With my machine as now fixed and the force alluded to, we cut ten and a half acres of clover and timothy, in six hours and fifty minutes;—and so perfectly too, that a visitor remarked, "the field looked like a planed board;" and another one said, (both being practical farmers) that it "was shaved as clean as you could shear a sheep;" and the work is done equally perfect in heavy or light grass.

To do this in the same time in heavy grass, would require from eight to ten scythes, and *short allowance too, for whetting*. It requires but a moment to oil the machine, and it is only necessary to grind the knives once, in cutting 25 to 30 acres of grass, and less in wheat.

To determine how much faster the machine cut than the scythe, I stepped round a space of 556 yards;—now, allowing the scythe *once* whetting only, it required the same time exactly to mow 51 yards, that the machine did "for the round trip" of 556 yards; and the latter was cut both closer and cleaner,—the difference being about ten to one in favour of the machine, due allowance being made for the greater width of swath by the scythe.*—With the side delivery, in cutting my clover seed, it will entirely supersede the necessity of raking, by laying it in bunches; and save probably in the short heads from five to ten per cent. more seed. In reaping heavy wheat, (for which we use three horses) the saving in grain by the machine, is very material over ordinary cradling;—not much, if any short of the cost of raking and binding.

In fine, I have rarely if ever used machinery for any purpose, that I considered more completely adapted to its object, than is Hussey's Reaper and Mower, such as I have; or that has given me more satisfaction in its use. It saves manual labor, saves expense, and enables us to secure our crops in better season and order, than would be possible without it. Nor is it a machine like Pinder's razors,—"made to sell," merely; but it is strong and substantially put together; fully able to bear the rough usage that farming implements often have to encounter.

I formerly looked forward to the Harvest season, as one of greatly increased toil,—and indeed of anxiety; but now, with my labor saving machinery, the *horse* reaps the grain, mows the grass, rakes the fields, and unloads the hay in the barn over his own rack. When some bright genius shall have adapted the "IRON-horse" to these and other agricultural labours,—and that it can and will be done, is quite as probable as that I should have lived to see the wonderful progress of Rail Road improvements throughout the Union, when witnessing the laying of the first experimental track in our native State—what a grand sight it would be to see one of Hussey's Reapers and Mowers attached to a Locomotive, and doing the work of forty men, with a single head and hand to guide and controul its movements! *We* may not, but others may see it

* Hussey is now finishing a Reaper to cut an *eight* feet swath, and to deliver its grain; intending to exhibit it in England next month—with sufficient power, he thinks it may be extended to *twelve* feet, and still deliver the grain satisfactorily.

and they will also find that these labour saving machines, and great improvements in the arts and sciences, so far from injuring the interests of any, as some erroneously suppose, will, by increasing and cheapening the necessaries of life, benefit all classes, and add to the comfort and happiness of the whole human family.

With much respect, thy friend,
EDW'D STABLER.

BALTIMORE COUNTY, July 17, 1852.

MR. EDITOR:—Having had a fair opportunity of observing the performance of Mr. Hussey's celebrated "Reaper" on my farm this season, under circumstances peculiarly calculated to test its efficiency, I think it not inappropriate to bear my testimony in its favor.

I finished cutting my grain more than a week ago. The grain was not only blown as flat as possible, but was tangled and twisted together, and lying in every direction; so much so that it would have been impossible to cut a large portion of it with the cradle. No one who saw the field believed that the machine could possibly succeed.

I take great pleasure in stating that its success was perfect and entire. It cut and gathered the grain in the very worst spots almost as well as that which was standing; and I was thus enabled to mow my crop in about one-half the time the *old fashioned* method would have required, thereby effecting a large pecuniary gain.

It also cuts the grass as evenly and as close as the most expert mower. I need scarcely say that I am perfectly satisfied with it. I subscribe myself, yours, &c. AQUILA TALBOTT.

APPLICATION OF LIME—MANAGEMENT OF MANURES—PLASTER AND GUANO, &C.

To the Editor of the American Farmer—

DEAR SIR:—I took a small worn-out farm in January, 1851, and have been trying to follow the system you recommend. I am now in need of your advice on two points, which I will state as concisely as I can. On one of my fields of about ten acres I put about two hundred pounds of Guano per acre, and then sowed Wheat; most of it had previously been a worn-out clover field, on which I had sown a bushel of plaster per acre in the spring of '51. In the spring of '52 I sowed clover, orchard grass, timothy, herds grass and Kentucky blue grass. I got about twenty bushels to the acre of wheat, and now have a beautiful growth of clover.

Now for my first question. I have shells all ready to burn, and I thought of putting about 25 bushels of lime and dragging in the fall. Would you approve this course? If so, say when it ought to be done, and add such remarks as you may think proper.

On another field of about thirteen acres, I put last year a tolerable dressing of wood stuff and 12 bushels of lime, and gathered from it only about 10 bushels of corn. My neighbors said it was badly cultivated; I thought it was too poor. This spring I put it in oats, with about 80 lbs. of Guano to the acre. I had a *very* good crop of oats, but have not yet got them out. I turned in my oat stubble and sowed buckwheat on this field, and I intend turning this under before the 10th October for my wheat. I shall sow about three hundred pounds of Kettlewell's Salts and Guano, mixed half and half, with the wheat.

Now for my second question. Would it be advisable to sow on the buckwheat, before turning it under, say 25 bushels shell lime? I shall put grass seed on this field in the spring.

By answering the above you will much oblige
Old Point, Va., Aug. 9, 1852. J. G. M.

Reply by the Editor of the American Farmer.

1. To the first question, we reply, that the lime may be applied any time this fall; that care should be taken to distribute it evenly over our correspondent's clover field; but that the lime should not be dragged in, as the clover and grass has been too recently set to justify that operation. The lime, from its own specific gravity will find its way into the soil without any aid from harrow or drag.

2. Woods-mould, marsh mud, river mud, and all such substances, should always be composted, in the proportion of 2 loads to ONE of barn-yard or stable manure, previously to being used; or it should be mixed with ashes, in the proportion of five bushels to every two double horse cart loads, and suffered to remain long enough to bring on the incipient state of decay before being used; otherwise their fertilizing properties will remain dormant until excited into activity by heat, moisture, air, and the voltaic action of the roots of the plants—fermentation and decay must ensue, before any vegetable matters will part with their fertilizing principles.

3. The Buckwheat should be ploughed in as soon as in bloom; the ground should then be rolled, harrowed, and rolled again: that done, let the lime be spread, and the ground rolled.

4. The Lime, in both cases, should be slaked with a strong salt brine.

5. We are pleased to find that by applying a bushel of *plaster* and 200 lbs. of *Guano*, per acre, to an old worn-out clover field, our correspondent succeeded in obtaining 20 bushels of wheat per acre, and a good stand of clover, &c.,—a strong proof of the conservative virtues of plaster, when sown or mixed with highly concentrated animal manures.

ON THE USE OF GUANO.—The use of Guano is now becoming so general, that every agriculturist must feel some interest in the subject. We think we can, with all confidence aver, that in the pages of the American Farmer will be found a greater amount of information on the subject than is to be found in any other work published.

ATALANTA, Geo., Aug. 7, '52.

To the Editor of the American Farmer.

DEAR SIR:—I send $2 for your valuable journal, vols. 7 and 8, to John Cunningham, Greensboro', Green county, Georgia.

I order your paper to post him up in regard to the use of Guano. I began its use two years ago, and this season applied ten (10) tons to 100 acres of my Tubman Wheat. I have made the largest crop ever raised on one farm in the State, and feel confident of my investment in Guano having paid me 100 per cent. profit by the increased product of Wheat.

I attribute much of my success to the valuable suggestions on the Guano question obtained from time to time from your paper. I this coming season use 10 to 15 tons.

Respectfully yours, RICHARD PETERS.

Seed Wheat.—Those wishing to try the wheat advertised by Mr. Gale, can obtain it of Mr. Wilmer, Bowly's wharf.

RIVERSDALE, Md. Aug. 12, 1852.

To the Editor of the American Farmer—

I ask a small space in your columns to defend a favorite theory of mine relative to the application of Manures of all kinds, and in order to bring the subject forward, I propose the following interrogatory:

HOW SHOULD GUANO AND ALL OTHER MANURES BE APPLIED?

My theory is, that Guano and all other manures should be kept as near the surface as possible, and I make this issue, at this time, from having read in your last No. a communication from my friend A. B. Davis, Esq. who therein opposes a theory to which I ascribe any little success that I have had in improving a very poor farm. Mr. Davis contends that the failures experienced in the use of Guano "*are the result of a too superficial application of it,*" and then proceeds to give *his experience* and *theory* as to the best manner of applying it, but in my humble opinion his practice is opposed in toto to the theory of his communication. The theory, as I understand it, is, that Guano, to be beneficial, should be ploughed deeply in the soil, for in one part of his essay he recommends ploughing it under with a large two or three horse plough; and I have heard other advocates of this theory say, they would plough it under two feet, if possible. It is against this theory, and not against Mr. Davis' practice, that I raise my voice. In the commencement, I confess I have had very little experience in the use of Guano, but at the same time I must say that I have derived more benefit from the application of 100 lbs. on the ploughed surface, (harrowed in with the grain) than from double the quantity ploughed under deep. Guano may be truly termed the poor land's manure, because it has double the effect on poor that it has on rich land, and has produced a wonderful revolution in the value of all worn out old fields in this region. Its volatile nature is the reason assigned for ploughing it under deeply, but that very reason would suggest to my mind an application that would bring its valuable properties into immediate use. If it is ploughed under 8 or 10 inches, why of course your grain is sown on the poor barren soil turned up, and cannot derive any benefit in the start from the Guano, and must perish or become very much stunted before its roots penetrate deep enough to reach it; and we all know that nothing in the vegetable or animal kingdom thrives so well after being stunted in its first start. I contend that the land should, in the first instance, be deeply ploughed, and then the grain and Guano sown on the surface and harrowed in together, as by this mode you bring the Guano in immediate contact with the grain, to give it a start, and nourish the plant until its roots are strong enough to seek food deeper in the soil; and I further contend that Mr. Davis' practice confirms *this theory*, for the only difference between his practice and mine is, that he puts it in 3 or 4 inches, and I only 1 or 2, but we both bring the grain and Guano in immediate contact with one another, which cannot be done where the Guano is ploughed under 8 or 10 inches. In my humble judgment all manures should be kept as near the surface as possible, in order that their valuable properties may be washed down to the roots of plants by the rains, and not buried so deep that none but the very heavy rains can reach them, and then only to carry them still farther from the plants. I know that I shall incur the ridicule of many theoretical agricultural chemists for such a heresy, but I call on those who have tried both theories in practice, to come forward and give their experience, in order that we may arrive at the true theory and practice for using this costly manure. It is much to be regretted that we have no Agricultural Colleges and Experimental Farms where this and other subjects could be thoroughly investigated, as the solution of this one question would, in my opinion, save more to the farmers of Maryland in one year than would establish many such institutions; for if it is true that we are deriving no more benefit now from 200 lbs. Guano, ploughed under, than might be derived from 100 lbs. differently applied, the saving would be immense. While on this subject, I desire to ask you, Mr. Editor, the why and wherefore of some of your theories, being well satisfied that it will give you pleasure to open your columns to enlighten any of your benighted readers. I frequently read in your *very valuable* journal similar opinions in regard to burying manure in order to prevent the escape of the valuable gases which they contain, and I have frequently been at a loss to reconcile that doctrine with another which you maintain *very zealously* whenever attacked, viz: the mixture of Plaster with Guano and other gaseous manures, to prevent the escape of those gases.—Now, if Plaster really fixes those gases, there is no good reason for ploughing in the manure, but it would be best to keep it near the surface, in order that every rain might dissolve some portion for the use of the plant, for certainly no one will contend that Plaster should ever be ploughed in. In conclusion, I maintain, that Guano, as well as all other manures, should be kept near the surface, and I instance the example of the Peruvians, who have used it longer than any other people. They dissolve it in water, and apply it *immediately* to the plant. We should place it near the plant, and let the heavens supply the water. Regretting to have spun my yarn to such a length,

I am, very respectfully, yr. ob't serv't,
CHAS. B. CALVERT.

NOTES BY THE EDITOR OF THE AMERICAN FARMER.

It gives us pleasure to respond to the appeal made to us by our honored correspondent, for the "why and the wherefore" of "some of" our "theories," as he is pleased to call the opinions which we have, from time to time advanced, in the discharge of our editorial duties. And we pray leave here to assure him, and all others of our readers, that we have never yet advanced an opinion, or theory, if that phrase suits our correspondent best, without giving to the subject as thorough an examination as our poor abilities permitted, and that in coming to our conclusions, we have been governed by those high moral considerations of duty, which induce a man to endeavor to avoid error, in order that he may not mislead others. That we may have often erred, we are not vain enough to pretend to deny; for to err, is the lot of humanity, and we see no reason to suppose why we should be exempt from this general law of nature. But now to the issues raised by Mr. Calvert between us.

I. He says:—

"I frequently read in your *very valuable* journal similar opinions in regard to burying manure in order to prevent the escape of the valuable gases which they contain, and I have frequently been at a loss to reconcile that doctrine with another which

you maintain *very zealously* whenever attacked, viz: the mixture of Plaster with Guano and other gaseous manures to prevent the escape of those gases. Now if Plaster really fixes those gases, there is no good reason for ploughing in the manure, but it would be best to keep it near the surface, in order that every rain might dissolve some portion for the use of the plant, for certainly, no one will contend that plaster should be ploughed in."

Now we must be permitted to observe, that the position assumed by Mr. Calvert, who is a gentleman of extensive reading, profound thought, and acute discrimination, surprises us,—for he knows as well as any one within the range of our acquaintance, that plaster is so difficult of solution, that it requires from 400 to 500 times its own volume of water to dissolve it, and that, until dissolved, and its sulphuric acid becomes liberated, that element cannot unite with the already formed ammonia of animal manures, and form the sulphate of ammonia, thereby converting the carbonate, which is a volatile, into a comparatively fixed salt, and thus preventing the loss of what is now allowed to be an important source of the nitrogen of plants. Hence then, when plaster may be used in connection with highly concentrated animal manures, it should be buried sufficiently deep for the earth to keep up and preserve that degree of moisture, essential to its decomposition, and to the separation of its chief constituent elements, viz., lime, and sulphuric acid; for until the latter be disengaged from the former, its conservative action upon the carbonate of ammonia can not take place. Therefore, we have generally advised, where plaster was used as a *fixer*, or as the agent for producing an involatile salt of ammonia, that it should be ploughed in with the manure, in order that it might occupy that position in the soil most favorable for its efficient action—that it might occupy that position where it would stand the best chance of deriving a sufficient quantity of moisture to dissolve it, and where, by being removed from the direct rays of the sun—to which it would be exposed near the surface—the volatile gases might be held in check, until the plaster should have time to be decomposed and commence its saving office. Now, the *texture and constitution of soils*, we have often stated, should exert great influence in determining the depth at which animal manures should be buried, or whether any fixing agent should be used. The opinions which we have given to our correspondents have gone to these lengths:—

1. That in stiff clays—in clay-moulds, well charged with vegetable matter—in loams, covered by crops of clover, or grass, we have distinctly stated, that there was no positive necessity for the use of a fixing agent—though we believed it better that there should be, and especially in cases where the ground was under the plough or hoe culture, in which cases, if the manure was buried within the reach of either implement, to be turned up at every working, loss of the volatile elements might, nay, would ensue.

2. In cases where our opinion has been asked, in regard to lands similarly constituted to the home estate of Mr. Calvert—*cold, wet clays*—we have advised against deep ploughing—against the turning in of the manure too deep—lest by getting into a bed predominating in water, the manure might be deprived of two of the essential aids of decomposition, viz. heat and atmospheric air. To such lands, before any outlays for the materials of improvement, in the form of manures, we have invariably advised *draining, a year in advance of deep ploughing*—DEEP PLOUGHING we have recommended, and shall again recommend, for "*sound soils*," that is, for such soils as are not "*wet*." Upon these points, we have ever been particularly circumspect, as so far as our judgment permits us to advise, it is one of the most cherished desires of our heart, that no farmer or planter should lay out a dollar at our suggestion, that would not bring back many dollars in return, in the increased products of his fields.

4. We would not, of course presume to advise a gentleman like Mr. Calvert, how he should improve his land, because the lecture he has just read us, shews, that our advice would be like "carrying coals to New Castle;" but if any one who had cold wet clay lands like his, were to ask us, we would say—*Drain at least three feet deep—give the drains a year to remove the excess of water from the soil, then put on a liberal dressing of animal manure*, and the stronger and more powerful that may be the better will it be for the land; then plough in the manure full 8 inches deep, pulverize thoroughly, subsoil next, then top-dress with lime, if the soil is destitute of lime. Indeed, we would treat it to 20 or 25 bushels per acre, in any event, if the land had been long in culture.

Now we have no doubt that Mr. Calvert has derived the results he states, in applying Guano to his land, in the way he states—his *word*, in our estimation, fixes that point beyond all question; but in placing his concentrated animal manures "near the surface," he has done no more than what we would have done in a soil similarly constituted. But the misfortune is, that he has been induced to draw conclusions, and adopt a *general rule for all soils*, from his success of certain applications on *his own*, than which, nothing is more deceptive and illusory—nothing more certainly calculated to lead to injury and loss. The *physical constitution* of his soil—the cohesive power of its clay, to say nothing of the decomposing effects of its water—or of the supposed affinities of clay for ammonia—are such as to render it a safe depository for animal manures *nearer* the *surface*, than if they were sunk much lower down. But, to put any highly concentrated animal manures near the surface, in thin, open, porous sandy loams, or sands, would be little better than throwing money and labor away, unless some active fixing agent were incorporated with the manure applied, to prevent the inevitable loss of the volatile gases—the loss of those principles of all animal manures, which impart to them their greatest value.

We do hold that it is perfectly correct in Mr. Calvert to keep his animal manures near the surface on his land, for if he were to bury them some eight or ten inches deep, before he shall have drained his land, he would derive but little if any benefit from them, owing to the presence of a superabundance of water in his soil, the difficulty of being acted upon by atmospheric air, and to the coldness of its nature; but it will never do for him to deduce a general rule from *his* success on *his* soil, to be followed as a general rule by others.

In adopting his general rule, there are three important points which Mr. C. appears to have overlooked. 1. That many plants penetrate the earth some 3 or 4 feet in search of water and food—corn and wheat roots have been traced that far, clover as far, if not farther, and Lucerne, much deeper,—

2. That the tendency of the *volatile* parts of all animal manures, is to *ascend*, and therefore, though they may be buried 8, 10, or 12 inches, they will, in their upward course, dispense their nutritive properties to the growing plants, and hence it is inferrible, that the deeper you bury them, if not beyond the penetrating powers of the atmosphere, the more diffusive will be the benefits resulting—and 3. That the ascent of water from the earth, which is passed off by evaporation, is nearly as great in quantity in a well ploughed and pulverized soil, as that received upon it from rain.

In cases of emergency, where the parties could not apply guano at the time of sowing their wheat, when asked, if it would be beneficial to top-dress with guano, we have replied affirmatively, and stated that if mixed with plaster, they might top-dress, and harrow it in, and then roll, though it would have been infinitely better, had opportunity been allowed, that the guano had been ploughed in.

II. Mr. Calvert says:

"No one will contend that plaster should ever be ploughed in."

This is a broad assertion, and yet we have seen numerous instances, in which the assertion has been contradicted by the result of the practice. We have seen clover-leys plastered, the plaster ploughed in—ploughed in deeply—and produce very heavy crops of wheat and corn—we have mixed plaster with our manures intended for various crops, and derived benefit from the practice. Col. *John Taylor*, of Caroline, Va. pursued the practice with the happiest results, for a long series of years—and it is but doing sheer justice to the memory of that enlightend man, accomplished gentleman, and successful farmer, to say, that the agricultural interests of our country should ever cherish his name with feelings of veneration and respect.

We have recommended, and shall continue to recommend, that plaster should be mixed with all animal manures—upon all green crops, when turned in as sources of mould to exhausted lands; but when soils shall be wet, tenacious clays, we shall, as we ever have, abstain from recommending that the turning in be deeply done, as we hold it to be untenable in theory, and injurious in practice, to plough such lands deep until they shall have been drained.

III. Mr. Calvert, in concluding his communication, says:—

"In conclusion, I maintain, that Guano, as well as all other manures, should be kept near the surface, and I instance the example of the Peruvians, who have used it longer than any other people. They dissolve it in water, and apply it *immediately* to the plant. We should place it near the plant, and let the heavens supply the water."

It so happens that we have drawn very different conclusions as to the practice of Peruvian farmers, than those drawn by Mr. Calvert. According to our reading of the accounts of historians and travellers, the Peruvians, at the time of setting their corn crops, dig in the guano, and turn the water from their Canals and sluices upon the fields.—At every subsequent working, these processes are repeated. The process of *irrigation* is oftener repeated than the working of the plants. In these practices, the Peruvians show their wisdom; for without they were to keep their arid sands—for we will not call them soils—healthfully moistened, even guano, the most powerful of all manures, could not assure their crops to grow and yield them fruit. Without water were artificially supplied, in the almost rainless climates of parts of Peru, the plants could derive no benefit from guano, or any other manure, because of the absence of moisture to decompose, diffuse it throughout the sand, and enable the rootlets and spongioles of the plants to take it up as food. Heat they have in excess, but owing to the absence of rain they are deficient in moisture; without which, in such arid sands as those of Peru, no plant can live, much less mature its grain. To our mind the conclusion is irresistible—and common sense bears us out in its propriety—that if the Peruvians were to do nothing else to secure a supply of *water*, than to dissolve their guano in water at the time of planting, they would never grow a crop. Their sands are naturally barren, devoid of mould; and, therefore, if left unaided, are unsuited to the growth of plants. By *irrigation*, they not only supply moisture, but to a great extent supply the elements of mould, as the waters with which they irrigate their crops are brought from the mountains, where vegetation flourishes, so that every time they turn those waters upon their crops, they deposit more or less animal and vegetable matters, the elements of mould, which under the influences of moisture and heat in their arid sands, are speedily converted into manures, and by their diffusion, together with the nourishing elements of the guano, are taken up by the growing crops as food.

We regret that Mr. C. has thought proper to cite the practice of the Peruvians, in aid of his bold theory, as he is unsupported by every reliable account that we have ever read in the premises, while the position he has assumed, is, to our poor judgment, unsustained by all the laws of vegetable physiology—and contradicted by the results of the practice of the most enlightened farmers of the world.

FLORAL DEPARTMENT.

Prepared by John Feast, Florist, 279 Lexington st. for the American Farmer.

After experiencing such a favorable season, vegetation is finer than has been for many years, and we may expect a splendid fall bloom of almost every plant that flowers late, which will give such luxuriance to greenhouse plants in general, that they cannot help but keep in fine order when taken into the house, if they have had but little attention through the summer. Have all plants that may require larger pots removed and potted in suitable soil; give good drainage, which is very essential in pot culture; the main cause why so many plants die, is the want of a proper strata to pass off the water, so that they will not become saturated, and thus cause sickness, which soon changes the color of the foliage, and then they seldom if ever recover.

Greenhouse Bulbs, as Speraxis, Oxalis, Ornithogaliums, Babiana, &c. repot by taking the strongest bulbs and putting two or three in each pot; they flower much finer when not crowded, as is generally the case—give them a mixture of loam, leaf mould and peat, in equal parts, and be sparing of water for a time after repotting.

Cyclamens, is a plant entirely too much neglected; it is one of the best plants in cultivation, and is quite hardy to stand our winters, with a little covering; it flowers for a long time in season; is easily managed in pots and raised from seed, but is mostly lost by too much moisture when they should be dormant, which is shown by the decay of foliage, when you should cease watering.

All greenhouse plants that were not repotted last

month, should be attended to before getting in the house—be careful and clean them from all scaly insects that may infest them; it is easier done before they are put away—tie up such as are not in proper shape, as the structure of a plant adds much to its beauty, as much so as the flower. Repot of all cuttings that may be struck, and remove all layers if properly rooted, and keep in a close frame for a short time, so as to get them established—Nothing further is required than the instructions of the previous month—only have your houses in order to receive the plants, have the flues attended to, whitewash and paint, and glaze if wanted, and have things in order.

Gloriosa Superba, I have now in bloom; this plant is but seldom seen in bloom here—it is a most beautiful and curious flower, and will vie with any other; it is like the Chamelion, changing its color from green to yellow and scariet, at the several stages of the flower, which makes it one of the most curious. I believe this is the second that has flowered in this country, and should be in the collection of every one who prizes a hot-house plant. I have some to dispose of at a moderate price.

Attend to the saving of Gillyflower seed and others, for a successive supply of winter blooming plants.

GUANO! GUANO!!

THE subscribers have now in warehouse, and will be receiving by different vessels during the season, their full supplies of Peruvian Guano, and are prepared to furnish the article in lots to suit, at the lowest market rates.

They guarantee the purity of all guano passing through their hands, and farmers ordering, may depend on every attention being given to its proper shipment.

In store, their cargo of very superior PATAGONIAN GUANO, imported in Barque Henry Kelsey. The cargoes of second quality imported in the "New Regulus" and "Christiana Murray."

Clover and Timothy Seed; Rock Salt for stock; Kettlewell's Fertilizer; Ground Bones, Ground Plaster, Fish, Bacon, &c.

W. WHITELOCK & CO.,
July 1-4t. Corner Gay and High sts.

Bone Dust.

THE subscriber will furnish ground Bones, warranted free from every mixture, *or the entire quantity forfeited*. Also a second quality article, composed in part of Bones, and in part of Flesh of Animals, being a quick and powerful fertilizer, at 35 cents per bushel or $12 per ton. He has lately made such an improvement in his machinery for crushing bones, as to enable him to sell an article better than ever before offered, a sample of which can be seen at the office of the American Farmer. My Bone Dust weighs, from the manner in which it is manufactured, 55 to 60 lbs. per bushel, consequently there are 10 lbs. of Bone more than that only weighing 45 or 50 lbs. per bushel—I am, therefore, compelled to make my price 55 cents, or be at a serious loss by my improved machinery.

None of my manufactured Bone Dust is sold, except at my Factory. JOSHUA HORNER.

I furnish to my customers, when bags are not sent, 2 bushel bags, at 6 1-4 cents each.

Reference.—Messrs. Randolph, Gollbart & Co., 158 Thames street. May 1-4t*

PERUVIAN GUANO.

THE subscribers have now in store, and will receive during the season, *direct from the Chincha Islands*, a full supply of No. 1 PERUVIAN GUANO, which they offer to agriculturists generally at the lowest market rates. They guarantee the purity of all guano passing through their hands. Purchasers receiving their supplies from the vessel will save the cost of storage. FOWLE & CO.,
aug 1-3t Washington, D. C.

GUANO—GUANO.

500 TONS PERUVIAN GUANO, direct importation, and *warranted equal in quality* to any in the market. The Guano is put up in good strong bags, and is in fine shipping order. For sale in lots to suit purchasers, at the lowest market rates, by

WM. ROBINSON, No. 4 Hollingsworth st.
near Pratt st. wharf, Baltimore, Md.

Also, PATAGONIA GUANO, BONE DUST, Building and Agricultural LIME, for sale on the best terms. je. 1-tf

JAMES BAYNES, Wool Dealer,

Warehouse No. 105 Lombard st. near Calvert, Balto.

IS prepared at all times to give a fair market price for WOOL of all descriptions. He would recommend to farmers to be more particular in washing their Wool, and in getting it in good order before bringing it to market, to ensure them a fair price. The demand is good, and the probability is, that it will continue so the coming season. Those having wool to dispose of, are invited to give him a call before disposing of their fleeces. Any information as to putting it up for market, &c. will be freely given.

References—B. Deford & Co., and Wethered Brothers, Baltimore—Jas. Mott & Co., and Houston & Robinson, Philadelphia. Ap. 1-1yr

TO FARMERS.

THE undersigned, by this method, would apprize the Agricultural community, that he is still engaged in the manufacture of the renowned *Wiley, Empire*, and other choice Plows. He also manufactures and has for sale, a number of the best and most efficient Farming Implements in use. Call before purchasing elsewhere, as his terms are such as cannot fail to please. All implements guaranteed.

☞ AGENTS for the *Wiley, Empire*, Boston, Woodstock, and other Plow Castings. A. G. MOTT.

At the old stand, No. 38 Ensor, street, and at No. 51 N. Paca street, opposite the Hand Tavern, Balt. mh-1.

A. E. WARNER, No. 10 N. Gay st.

MANUFACTURER OF SILVER WARE, FINE GOLD JEWELRY, and importer of BEST SILVER WARE, FANCY ARTICLES, &c. would respectfully invite the attention of those in want of any of the above articles, that he keeps always on hand, and makes to order, every variety of Silver Ware, fine Gold Jewelry, and best quality Silver Plated Ware, which he will sell on the most accommodating terms. Feb. 1-tf

AGRICULTURAL IMPLEMENTS.—LABOR SAVING MACHINERY.—*GEORGE PAGE, & CO.* Machinists and Manufacturers, Baltimore st. West of Schroeder st. Baltimore, are now prepared to supply Agriculturists and all others in want of Agricultural and Labor-saving MACHINERY, with any thing in their line. They can furnish Portable Saw Mills to go by steam, horse or water power; Lumber Wheels; Horse Powers of various sizes, ranging in price from $85 to $190, and each simple, strong and powerful. Their *Horse Power and Thrashing Machine*, they are prepared to supply at the low price of $125 complete; the Thrashing Machines without the horse power, according to size, at $30, 40, 65 and $75; Improved Seed and Corn Planter; Portable Tobacco Press; Portable Grist Mills complete, $165.

C. H. DRURY, *Hollingsworth street corner of Pratt—Head of the Basin*—having completed his establishment with Foundry connected, for the making his own Castings, is prepared to furnish all varieties of *AGRICULTURAL IMPLEMENTS* and *CASTINGS*, made to patt. . oof the best material.

The following is a list of PLOWS kept constantly on hand: Davis, of the different numbers, for wrought and cast shears, S. & M., Chenoweth, Wiley, 2 and 3 furrow, No. 0, Hill side, No. 1 and 3 Connecticut—Beach Improved or Posey Plow, with common Davis cast shear—Self-sharpener or wrought shear—Corn Cultivators, plain and expanding—Tobacco do.—Wheat Fans—Corn shellers with double hopper—Old Vertical and Virginia sheller—Harrows—superior Pennsylvania made Grain Cradles—Revolving Horse Rakes—Cylindrical straw Cutters, &c. &c. Horse Power *GRIST MILLS*, a very useful and saving article, and coming into general use. *HORSE POWER AND THRESHING MACHINES*, of these I need not say any thing, as wherever they have been in use any time, they are preferred to all others.

C. H. D. will this year make a smaller size Power & Thresher, (price of Power, $100, Thresher, $50, Band, $10, or when taken together, complete, $150 cash.) Persons in want of Implements made of the best material, and put together in the strongest and best manner to answer the purpose for which they are intended, are invited to call on the subscriber. jal

LIME.

THE subscribers are prepared to furnish Building and Agricultural Lime at the depot on the Back Basin, corner of Eden and Lancaster-sts., which they will warrant to give satisfaction, it being burnt from pure Alum Lime Stone, equal to any found in the United States. Orders may be left with WILLIAM ROBINSON, No. 15 Hollingsworth-street, near Pratt.

tf FELL & ROBINSON, City Block

BAMBOROUGH'S WHEAT FANS.

Planters and others, residing in Virginia, "East of the Blue Ridge," so called, who are using and selling Wheat Fans, will please to take notice, that on the 10th day of June instant, we purchased the full and exclusive Patent Right for making, vending and using JOHN BAMBOROUGH'S **PATENT WHEAT FAN,** in all that part of Virginia lying East of the Blue Ridge.

Having paid a liberal price for this valuable invention, the law will be rigidly enforced in any case of infringement, either in making, selling or using said Fan Mill.

We are also the sole owners of this Patent in the State of Maryland, and are now prepared to furnish Merchants and Farmers in any quantity they may desire. This Wheat Fan has received 54 Premiums, and is the most perfect and popular Farm Implement in the World.

At the Maryland State Fair, 1849, when more than thirty Wheat Fans were on the ground, it received the FIRST PREMIUM, and at each exhibition of the Maryland State Society since that time, it has received a *certificate of Pre-eminence over all others*, signed by the President and Secretary, as being the strongest and best Wheat Fan on Exhibition. We have also the pleasure to inform our customers, that the article is better made than those heretofore offered, and without any advance in prices, which are, viz:—No. 1, EXTRA, $34. No. 1, $32, and No. 2, $30.

All orders will meet with prompt attention, by **E. WHITMAN & CO.**
Cor. Light and Pratt sts., Baltimore, Md.

We have also made arrangements with the Patentee to sell the said Wheat Fan in all other States in the Union, and will attend to orders at short notice.

E. Whitman & Co.'s Premium Iron Thrasher, the cylinder of which will last 100 years in constant use.

It is a common remark by those using this machine, that no man would use any other if he knew the great advantages of these. We have recently made an improvement in the teeth or spikes of this machine, which adds very much to its strength and durability, and can now recommend them to do more work with the same amount of power, and that they are more durable, will break less grain and thresh cleaner than any other machine made in this country.

Prices—20 inch, $45; 24 in. $50; do. extra heavy, $60.

The Straw Carrier may be attached, and it is a simple fixture, which saves the labor of some two or three hands, will separate the grain from the straw more perfectly than it can be done by hand.—Additional price, with Straw Carrier, $15, $18 and $20. june 1

E. WHITMAN & Co.'s
PREMIUM WROUGHT IRON RAILWAY HORSE POWER,

Which has received *all* the premiums that have ever been awarded to Railway Powers of any description by the Md. State Agricultural Society, viz:

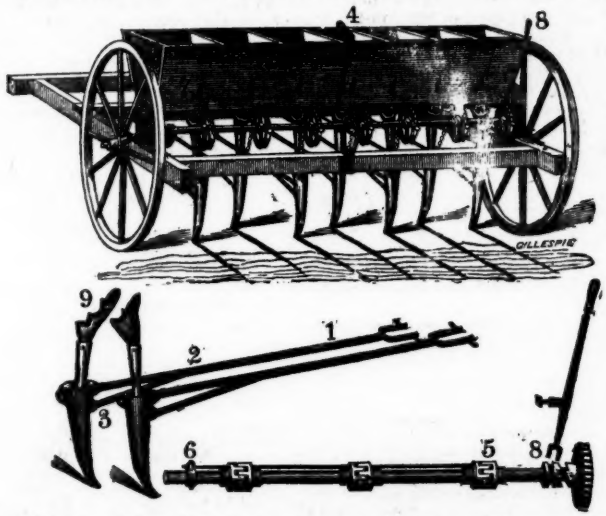
1849—First Premium of the Maryland Agricultural Society, to E. WHITMAN, for his Wrought Iron Railway Horse Power, $10

1850—First Premium of the Maryland Agricultural Society, to E. WHITMAN, for his *Improved* Wrought Iron Railway Horse Power, $15

1851—To E. WHITMAN & Co., by the Maryland Agricultural Society, for their Improved Wrought Iron Railway Horse Power, a Certificate of Pre-eminence, over all others.

june 1 PRICE, $100.

SINCLAIR & CO'S PATENT WHEAT DRILL.



"The Drill lessens labor, lessens the quantity of seed, and increases the crop."

The fig. heading this advertisement correctly represents our PREMIUM WHEAT DRILL, and the same that has performed so successfully during the last several years. Of all Drills and all things considered, there is no American or English machine superior to those now made, either as regards simplicity, combination or effect. The mode of construction and the advantages, may be explained as follows, viz:

The tines (3) being arranged *angular* and hung on the swing principle, prevents the machine from choking with grass, *corn roots*, &c., and allows them to rise or fall according to the grade of the land. By the lever (4) and chains to each tine, one, a portion, or all, may be thrown up instantly; also, by the slides, (7) either or all the cylinders may be prevented from acting at pleasure, or the entire cylinder shaft thrown out of gear by operating on lever (8, 8.) The receivers (9) are so arranged that the driver can observe the grain falling from each cylinder, which advantage, with the hoppers being equally divided, insure a certain check against irregular seeding The brace (2) is attached to the tine by a wooden pin—intended to break when the tine comes in contact with fixed roots, &c.; new pins are provided for replacing the same; also on top of same brace three holes are made in the swinging or main lever, (1) which allows the tines to be set less or more inclined, and intended to give more or less depth of furrow. The cylinders (5) are in two parts, and separated or closed by two pinch screws (6) attached to an iron rod, which allows the cups to be formed to any and uniform size, and to drop any desired quantity of wheat per acre.—The ends and bottom of the hopper are of iron, accurately adjusted, which prevents derangements of the works, consequent to shrinkage that wood is subjected to. The machine may be worked by 2 or 3 horses—if for the former, a pair of shafts will be necessary. Directions will be furnished with each machine relative to management. Price $90.

Also for sale, Single and Gang PLOWS, for broadcast seeding; Harrows, Rollers, wheat and Corn FANS, Rolling Screens, with our usual assortment of Flushing PLOWS, CASTINGS and **AGRICULTURAL MACHINERY.**

Sept. 1 **ROBERT SINCLAIR, Jr. & CO.**, 82 Third street.

GUANO—GUANO—GUANO.

J. J. & F. Turner, 36 Pratt st., Balto.,

Dealers in Guano, Bone-Dust, Flour, Grain, Feed, and Seeds,

HAVE on hand, of late importations, a large supply of No. 1 Peruvian, and Nos. 2 and 3 Patagonian and Mexican GUANO; fine and coarse BONE-DUST; Family, Extra and Super FLOUR, warranted to give satisfaction; GRAIN of all descriptions; MILL FEED of every grade; Clover, Timothy, Millett, Orchard and Herds Grass—all of which they offer for sale on pleasing terms, at the lowest prices.

They particularly call the attention of Farmers to their 1st quality Patagonian Guano, containing 17½ per cent. of Salts of Ammonia and 37 per cent. of Phosphates, and 2d quality, containing 13½ per cent. of Salts of Ammonia and 25½ per cent. of Phosphates. The accounts we have received of this Guano warrant us in recommending it as the cheapest article in this market.

☞ Dr. Stewart's analysis and remarks on the above Guano, can be seen at our store. aug. 1

Important to consumers of Peruvian Guano.

THE Government Agents for the sale of Peruvian Guano in the United States, having appointed the undersigned Sub-Agent for sales in the District of Columbia, he is now prepared to furnish No. 1 Peruvian Guano in lots of one to one thousand tons, upon terms which cannot fail to give satisfaction. A depot will be established in Georgetown in connection with his house in Washington, and farmers will thus be enabled to obtain supplies of the article *in its purity*, from DIRECT IMPORTATIONS to *the Potomac*.

His neighbors of Maryland and Virginia will find it to their convenience and interest to purchase of him—and he hopes by strict personal attention to their orders, to receive from them a generous share of patronage. FITZHUGH COYLE,

National Agricultural and Seed Warehouse,
july 1-4t* Washington City.

New Produce, Grocery & Commission Store.

THE subscribers offer their services to the farmers of Maryland and adjacent States, for the sale of PRODUCE of all kinds. The advantages of having an agency in this city, to dispose of MARKETING, are now well understood, and they flatter themselves, from their knowledge of the business, that they will be enabled to secure better prices than are now generally obtained. They will also attend to the sale of Tobacco, Grain and Country Produce generally, charging a fair commission for their services—and will purchase Guano, Lime, Bone Dust, Plaster, Seed, &c. to order. Prompt settlements will be made, and no effort will be spared to give satisfaction.

COLEMAN & RICHARDSON,
july 1-5t* 26 Light st. wharf, Baltimore.

Mexican Guano.

GUANO—700 tons Mexican Guano, in store and for sale by STIRLING & AHERNS, 54 Buchanan's wharf, at $25 per ton of 2240 lbs.

We have the following certificate from Dr. David Stewart, who analyzed the Guano. "It contains the largest proportion of Phosphates I have ever met with—where they are deficient in a soil, this Guano is cheaper and much more permanent than the Peruvian. Signed,

June 1-tf. DAVID STEWART."

GOLDEN FLINT PREMIUM WHEAT.

THE subscriber will have for sale as soon after harvest as it can be got out, from 3 to 400 bushels SEED WHEAT, of the *Early Golden Flint variety*. This wheat is as forward as the Mediterranean, with the advantage over that variety of greater strength of straw; equally fly proof; white and smooth, and not subject to shattering. It took the premium last fall at the State Cattle Show over other celebrated varieties. Those wishing to purchase will please call on Mr. John Wilmer, Commission Merchant, Bowley's Wharf, Baltimore, Md. Price $2 per bushel. july 1-4t. JNO. E. GALE.

COAD WHEAT.

THE advertiser expects to have on sale after harvest, about 300 to 400 bushels COAD WHEAT, and will contract to deliver the former amount at $1.50 per bushel. The character of this wheat is too well known to need a description.—It is being raised by Wm. B. Matthews, of Charles Co. Md., to whom orders may be addressed at Port Tobacco, P. O., or to the Editor of the Farmer. June 1-4t*

GROUND BONES.

TO FARMERS AND PLANTERS.—The subscribers beg leave to inform their friends and patrons that they still continue the Grinding of Bones, collected daily from the butchers, therefore perfectly fresh, and contain all their fertilizing qualities in the greatest perfection. Their late improvement in machinery also renders the Bones finer and more desirable.

Orders received at the store of Geo. C. COLLINS & DENSON, 83 Light street wharf, or at the Factory, intersection of Columbia street and Washington road.

aug. 1-4t COLLINS & BULLOCK.

CHOICE GARDEN AND FLOWER SEEDS.

COMSTOCK, FERRE & CO.

SEED GROWERS,

WETHERSFIELD SEED GARDENS, WETHERSFIELD, Ct. *established over 30 years.*—The great popularity of the Seeds grown at this establishment has been gained by the assiduous personal care and attention of the proprietors. Their quality and productiveness will continue to be unsurpassed.—Dealers, Market Gardeners, and others, supplied in bulk, or neatly prepared at low prices for the quality of the Seeds.

30 papers choice *Flower Seeds* sent by mail (*postage paid*) for one dollar.

The Gardeners' Almanac and Descriptive Catalogue, containing 60 pages, sent by mail on the receipt of a three cent stamp. Abridged and Price Catalogues gratis. Seeds forwarded from Hartford. aug. 1-3t*

GRASS AND GARDEN SEEDS.

200 Bushels Clover Seed,
500 do. Timothy, new crop,
3000 do. Red Taper head Grass,
500 do. Orchard Grass, new crop,
200 do. Ray Grass, American Perennial,
1000 do. White Dutch Clover,
1000 lbs. Lucerne.

One cask of ALSACE, or HYBRID Clover. This article is well worth the attention of Farmers; and in the opinion of those who have raised it, will supersede all other clovers—it is fully equal to the White, and will grow four feet high.

GARDEN SEED.

200 bushels extra early PEAS, new crop,
20 do. Turnip seed—all kinds, new crop,

With all kinds of Garden Seeds, of my own importation and raising, for sale at the Seed and Agricultural Warehouse of

C. B. ROGERS,
Aug-1 2t No. 20 Market st., Philadelphia.

Notice to Farmers—GUANO.

THE undersigned would respectfully call the attention of Farmers to their extensive stock of GUANO, and would solicit an examination of the same before purchasing. We have, as usual, a large supply of No. 1 quality PERUVIAN, of direct importation, the analysis of which cannot be excelled by any in this market. Also, PATAGONIAN of 1st and 2d qualities, the former containing 44 per cent. of Phosphates and 13.6-10 per cent. of Salts of Ammonia; the latter 25½ per cent. of Phosphates and 10 per cent. of Salts of Ammonia, as per certificate of Dr. David Stewart, which can be seen at our warehouse.

These Guanos, containing, as they do, a very large proportion of Phosphates, and enough of the active property, Ammonia, are peculiarly adapted to stiff soils, and we are in possession of various testimonials from Farmers, stating that the results derived from their use have been more satisfactory, at about *one-half* the cost, than that obtained from *Peruvian*.

We are now enabled to sell GUANO at prices greatly reduced from those of previous seasons.

A liberal deduction made to clubs or parties taking 50 tons.

☞ All Guano is sold by us under a *guaranty* of its genuineness. P. MALCOM & CO.

Guano, Grain and Flour Warehouses,

Corner of Bowly's wharf and Wood street, Baltimore, Md.
aug. 1-3t

Bone Dust and Poudrette.

BY the request of my customers, I have made considerable improvement in the machinery for GRINDING BONE, and am now prepared to furnish a fine article, which acts quicker and more powerfully, as I extract no glue from the Bone, or use any Chemicals, leaving the Bone Dust in its natural or pure state, weighing from 55 to 60 lbs. per bushel. The *Poudrette* is as good as can be made, and will be sold low. Apply by letter, or at the Factory on Harris' Creek, Baltimore, Maryland. THOS. BAYNES.

REFERENCE.

D M. Perine,	Lloyd Norris,	Wm. Baker Dorsey,
G. W. Lurman,	W. B. Stephenson,	W. H. Ross,
J. Q. Hughlett,	J. W. Randolph,	Capt. C. Wright,
J. Tyson, Jr.,	T. Jef. Rusk,	Wm. S. Bond.

N. B. Orders left with the Office of the Farmer will be attended to.

☞ In December and January, I will sell my Bone Dust at 50 cts. per bushel. Oct. 1.

LIME—LIME

THE undersigned having purchased of E. J. Cooper the most extensive Lime Burning Establishment in the State, is now prepared to supply Agricultural and Building LIME, of superior quality, to farmers and others, on accommodating terms, from his Yard, at the *City Block*, or delivered at the several landings on the Chesapeake Bay and its tributaries, and pledges himself by strict attention and punctuality, and a determination to do justice, to merit a liberal share of patronage. Any orders addressed to him through the Baltimore Post Office, or left with C. W. BURGESS & Co., No. 60 South street, one door above Pratt, will be promptly attended to.

Feb. 1-1y* JAMES L. SUTTON.

PERUVIAN GUANO.

THE undersigned, exclusive Agents of the Peruvian Government, for the importation and sale of Guano into the United States, have the honor of notifying to the farmers and dealers of this country, that they have settled in this city a branch of their Lima house (Peru) under the especial direction of their partner, Mr. Frederick Barreda, with the object of performing all the business relating to that Agency in the United States.

Following the views of the Peruvian Government, whose wishes are to establish a fixed and convenient price for this manure, offering the same facilities to farmers and dealers of obtaining it from first hands, the undersigned have decided to sell the Guano at the rate of $46 per ton of 2,240 lbs., put into good bags for all quantities above 50 tons, with due notice to purchasers, that all duties, charges or fees, now imposed, or that may hereafter be imposed upon the introduction of Guano by the laws of the different States into which it may be imported, will be paid by them, in addition to the above named price of $46 per ton.

Full cargoes of Guano can be purchased and delivered at any safe port of entry in the Chesapeake or Delaware Bays, or their tributaries.

The consignees only warrant as proceeding from Peru the bags of Guano marked with their true mark, and sold by them or their Agents.

For further particulars apply to

F. BARREDA & BROTHER,
No. 62 S. Gay st., Baltimore, or to
T. W. RILEY, 42 South street.
Our Agent in New York.

July 1-1yr.

AGENCY FOR THE PURCHASE AND SALE OF IMPROVED BREEDS OF ANIMALS.—Stock Cattle of the different breeds, Sheep, Swine, Poultry, &c. purchased to order and carefully shipped to any part of the United States—for which a reasonable commission will be charged. The following are now on the list and for sale viz:

Thorough bred Short Horns and Grade Cattle				
Do	do	Alderney	do	do
Do	do	Ayrshire		
Do	do	Devons	do	do
Do	do	South Down Sheep		
Do	do	Oxfordshire	do	
Do	do	Leicester	do	

Swine and Poultry of different breeds.

All letters, post paid, will be promptly attended to. Address AARON CLEMENT,
mh 1 Cedar st, above 9th st., Philadelphia.

BUCK LAMBS.—The subscriber offers for sale a beautiful lot of New Oxfordshire Ram Lambs, got by his fine Ram, obtained from the late Clayton Reybold, and was one of the choicest of his flock, out of very superior Ewes. They will be delivered in Sept. or Oct.—price $15 to $20.

Also for sale, a pure New Oxfordshire BUCK, purchased from Mr. Reybold, one of the very choicest of his flock, and now in his prime, 3 years old. Having used him for his present flock, and having just obtained a fresh Buck, I have no farther use for him. He is probably the finest Buck in the State; he weighed 237 lbs. in April. Apply at the office of the American Farmer, to Mr. S. Sands, or to

WM. JESSUP, Cockeysville P. O.
June 1-4t Balt. Co. Md.

FOR SALE.—BUCK LAMBS of the Cotswold or New Oxfordshire breed, deliverable in Baltimore after 1st of Aug.

For several years past great care has been given by the subscriber to the selection of his breeding Ewes, and Rams, and the Buck Lambs from his flock have won 3 out of 4 of the annual premiums for the best pen of Buck Lambs, awarded by the Maryland State Agricultural Society. Price from $20 to $25, according to choice. For further information enquire of S. Sands, editor of American Farmer, Baltimore, or to the subscriber.

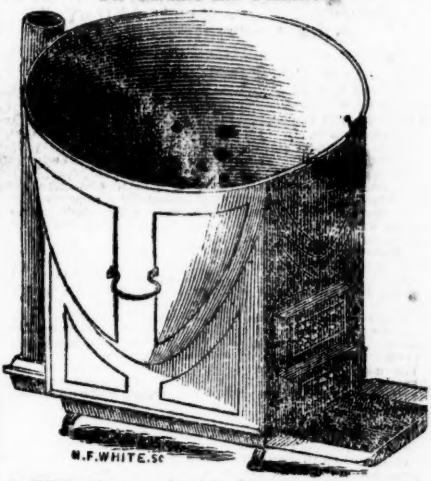
HENRY CARROLL,
June 1-4t Westeman's Mills P. O. Baltimore Co. Md.

NEW OXFORDSHIRE LONG WOOLED BUCKS FOR SALE.—The subscriber having purchased the entire stock of Sheep belonging to his brother, Clayton B. Reybold, deceased, has yearling and two year old long wooled Bucks, which he will dispose of at any time called for.—This flock (which has been bred from some of the best ever imported) is so well known they need no further description than to say they continue to yield their very heavy fleeces from 9 to 16 lbs. of washed wool, and when full fatted will weigh upwards of 300 lbs. alive. This breed of Sheep are remarkably healthy and very prolific, and make a profitable cross with the various breeds of this country, doubling the weight of wool and mutton. Gentlemen are invited to call and see for themselves, or communicate by mail. Direct Delaware City, Del.

June 1-4t* WILLIAM REYBOLD.

Macgregor's Agricultural Boilers,

For Farmers and Planters.

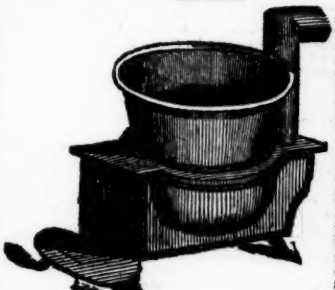


A NEW nd improved article of Cauldron, far superior to, and decidedly the most economical boiler in use; equally adapted to wood or coal. It consists of a stove with an outer case extending to the entire top of the boiler, thereby allowing the heat to pass all around before it can escape. To Tobacco planters they are invaluable—after having used them for boiling food for stock, scalding hogs, &c. they can be removed to the tobacco house, and by reversing the boiler and putting it on top of the case, it forms a complete hot air furnace, and will heat the largest house sufficiently for drying purposes, the inventor having an especial eye to that object; we have them of the following sizes, viz: 15, 30, 60, 90, 120 and 150 gallons. Please call and examine before purchasing.

For sale by ROBBINS & BIBB,
Sole Agents for the State of Maryland,
39 *Light street, Baltimore.*

P. S.—We have also a full and complete assortment of Stoves, Cooking Ranges, Hollow Ware, Copper and Tin Ware, &c.
July 1 6t

Farmer's and Planters' Boiler or Laundry Kettle.



A NEW article, designed for the use of Farmers, Planters or Manufacturers, or for any purpose where the common cauldron has heretofore been used. It consists of a stove or fire box, designed for burning long wood, brush or chips to which a cauldron is so adapted that the flame is spread in a thin sheet around the bottom and sides, forcing it equally over every portion of the fire surface at the same time, thus greatly economizing in the use of fuel, and ensuring the utmost expedition in its operation. For sale by BARTLETT BENT, JR.
july 1, 6t * 238 Water Street, N. Y.

WARNER'S PATENT SUCTION FORCING AND ANTI-FREEZING PUMP, has been awarded the Silver Medal by the New York, Philadelphia, and Baltimore Fairs, which is evidence sufficient that it is the best Pump in use; by attaching pipe, one man can force water throughout the largest building. For baths, washing windows, carriages, &c. it is particularly applicable. The public are invited to call and see the Pump in operation. Price $20 and 25.

GILDERSLEVE, HOLLINS & CO.,
may 1 7t 63 S. Gay st. near Pratt, Baltimore.

FIFTH ANNUAL CATTLE SHOW,

AND AGRICULTURAL & HORTICULTURAL EXHIBITION OF THE MARYLAND STATE AGRICULTURAL SOCIETY,

To be held in Baltimore on the 26th, 27th, 28th and 29th of OCTOBER, 1852,

At the Show Grounds at the extremity of North Charles street, facing the Washington Monument, in the city of Baltimore.

THE SOCIETY has issued its list of Premiums for the Exhibition, with the rules and regulations, together with the names of the Judges and all other particulars, copies of which can be had on application to the Secretary, at the business office of the Society, 128 Baltimore street, Baltimore.

The amount of premiums is increased about one-third over that of last year, and now reaches nearly $5000—and competition is open to the citizens of all the States of the Union, by becoming members and paying to the Treasurer, or to the Secretary at the Society's Rooms, the annual fee of $3. Inventors and Manufacturers of Implements and Machinery of every description required by the farmer and planter, will find in the list of premiums that the most liberal awards are offered for excellence in their department—and the owners of stock will have every facility afforded them, in the power of the Society, for the display of their animals. In addition to the hay and straw heretofore gratuitously furnished, the Executive Committee have directed that corn, oats and mill feed shall also be furnished by the Society to stock on exhibition requiring it.

The usual facilities will be afforded by the Railroad and Steamboat Companies, in bringing stock, implements, &c. to the Show, free of cost, and round trip tickets will be issued to the passengers.

Attention is called to the following regulations, adopted at the last meeting of the Executive Committee, viz:

"Persons intending to exhibit stock, to give a particular description thereof in writing to the Secretary by the 23d October, —those complying with this rule will have their applications handed to the Chief Marshal, who will designate the stalls in the order in which they are applied for."

CHARLES B. CALVERT, President.
SAML. SANDS, Secretary. sept. 1-2t

Hay and Straw for the Cattle Show.

SEALED PROPOSALS will be received until nine o'clock of the morning of the 9th September, for the supply of the HAY and STRAW which may be required by the Maryland State Agricultural Society, at its annual Exhibition, to take place in this city during the last week of October. The Hay and Straw to be of the best quality, and to be delivered on the grounds of the Society as it may be required by the President. The terms will state the price for packed and for loose. The cost of the amount required last year was upwards of $800—a considerable increase, it is expected, will be required for the coming Show.

CORN, OATS AND MILL FEED.

Proposals will also be received, as above, for the supply of the Corn, Oats and Mill Feed, which will be required for the stock on the Show Grounds, which the Society has determined to furnish to exhibitors.

The Proposals will be opened at the meeting of the Executive Committee on the 9th September, at 10 o'clock. Any further particulars will be made, however, on application to the Secretary, to whom the proposals must be directed, marked "Proposals for furnishing Hay and Straw," or "Proposals for furnishing Grain, &c. &c."

SAML. SANDS, Secretary,
M. S. A. Society, 128 Baltimore street,
sept. 1 Baltimore, Md.

FOR SALE.

IMPROVED SHORT HORN AND ALDERNEY CATTLE, of different ages, the greater part of them bred on the farm of Thomas P. Remington, Esq. Many of the Short Horns are descendants of the herd of the late Mr. Bates, of Kirkleavington, England, justly celebrated as one of the best and most scientific breeders of the age.

The Alderneys are from the best imported stock. The Cows of that breed are unrivalled as rich milkers. Apply to

AARON CLEMENT,
Agent for the purchase and sale of improved stock, &c.
sept 1-tf Cedar st. above 9th st. Phila.

Thorough Bred South Down Sheep.

THE subscriber is authorised to dispose of a small flock of thorough bred South Down SHEEP, twenty-two in number, the owner of them having now no enclosure in which he can pasture them. The flock consists of one premium Ram, (recently purchased and having never been with the flock,) fourteen Ewes, and the residue Lambs, about half of each sex. If sold as a flock, the price will be made much lower than any of them separately. SAMUEL SANDS,
sept 1 American Farmer Office.

POUDRETTE, &c.—POUDRETTE, from the Lodi Factory, at $1.75 per bbl.
IVORY or BONE BLACK at $1.50 per bbl.
BITUMINOUS FINE COAL, at $1.25 and $1.75 per bbl.
For sale by WILLIAM CHILD,
sept 1 2t* No. 78 South street, Bowly's wharf.

Potomac Land For Sale.

"CIKACAWONE," the Farm belonging to the heirs of Fleming Bates, late of Northumberland County, Virginia.—This Farm is pleasantly situated on the Potomac River, immediately opposite Point Lookout, on Chesapeake Bay, and is remarkable for its beautiful prospect and healthy location. It possesses many advantages for fertilizing the land, such as lime, Indian-banks, &c., besides the facilities for procuring foreign manures, which act finely on this land.

This Farm contains two hundred and thirty acres of Land, about one-fourth of which is in timber, the balance divided into fields of nearly equal sizes, and are susceptible of a high state of improvement. The buildings consist of a large and convenient Dwelling, in good repair, with Kitchen, Barn, and other outhouses, somewhat out of repair. There is an extensive marsh adjacent to this farm, which affords good grazing nearly all the year, and Hull's Creek, upon which it is immediately situated, abounds in fish and oysters of the finest quality and flavor. It has an orchard of well selected Fruit, and possesses many other advantages deemed unnecessary to mention. Persons wishing to purchase, can reach this farm by means of the "steamer Osceola," which runs regularly from Washington to Norfolk, and has a landing within 5 miles of the place, viz: Cone River.

This farm is offered for sale for the purpose of effecting a division among the heirs, &c.

sept 1-3t ELIZA W. BATES.

☞Baltimore Sun will publish weekly for three months.

Eastern Virginia Farm For Sale.

HAVING declined a removal to the country, we are determined to sell the highly improved FARM, owned by us in the county of Dinwiddie, distant from the city between 2 and 3 miles, at the junction of the Plank and Court House Roads, containing 250 acres, 100 of which has been limed and highly manured, and upon which very fine crops of Wheat, Oats and Corn are now being raised.

If desired, it may be advantageously divided as follows:

66 Acres, with the principal buildings, at the junction on the south side, having a never failing spring, a well of fine water, and a large number grafted Fruit Trees.

84 Acres, opposite the above, with the usual buildings, on the north side of the road; has 10 acres of Wood, original growth, a well of good water, with a large quantity of grafted Fruit, and has been used for the last 5 or 6 years as a productive market garden.

100 Acres, detached from either of the above, on the south side, (fresh land,) well watered; about 65 acres are in wood, from which the others could be conveniently supplied.

If not disposed of by *Friday, the 22d day of October next*, it will on that day be offered and sold as a whole, or divided, as may be considered best for the interest of those concerned.

RO. RITCHIE.
Petersburg, Va., Sept. 1852. sept 1-2t*

NEW PLASTER MILL.

THE subscriber offers for sale, fine GROUND PLASTER, of best quality, and on the lowest terms. He has also a Bone Mill attached, and intends to keep a large supply of GROUND BONES, pure from the mill. His machinery is all on the best, and some of it on improved principles. He feels confident that entire satisfaction will be given to all who may oblige him with their orders. J. BARKER,
sept 1-3t* No. 79 Monument st. near York avenue.

CHINA AND CHESTER HOGS FOR SALE.—For sale an imported China BOAR, (black,) three years old; two China BOAR PIGS, three months old, and a pair of Chester PIGS, four months old. They are all pure bred and fine specimens. Apply at this office, to SAMUEL SANDS. sept 1

Important to Purchasers of LUMBER.

THE undersigned is selling SHINGLES, LATHS, PICKETS, CULLINGS, WEATHERBOARDING, &c. at the lowest cash prices, if taken from the wharf, lower end of McElderry's wharf, opposite the State Tobacco Warehouse.

June 1-1y ROBERT HOOPER.

Seed Wheat.

1000 BUSHELS SEED WHEAT, white blue stem, free of smut, of prime quality, raised in Talbot Co. Md., for sale in lots to suit purchasers, at $1.25 per bushel. by

F. W. SWEENY,
aug. 1-3t corner Stiles and Gough streets.

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